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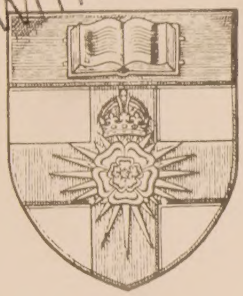

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VOL. XX.

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TRANSACTIONS

OF THE

OBSTETRICAL SOCIETY

OF

LONDON.

VOL. XX.

FOR THE YEAR 1878.

WITH A LIST OF OFFICERS, FELLOWS, ETC.

LONDON:
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1879.

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Berry, Samuel, Esq., F.R.C.S.	Birmingham.
Hall, Alfred, M.D.	Brighton.
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Roper, Alfred George, Esq.	Croydon,
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HENRY OLDHAM, M.D., Cavendish place.
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HONORARY FELLOWS.

BRITISH SUBJECTS.

Elected

1862 McCLINTOCK, ALFRED H., M.D., late Master of the Lying-in Hospital; 21, Merrion square, Dublin.

1862 DUNCAN, JAMES MATTHEWS, M.D., A.M., F.R.S. Ed., Physician-Accoucheur to and Lecturer on Midwifery and Diseases of Women and Children at St. Bartholomew's Hospital; 71, Brook street, Grosvenor square, W. *Council*, 1878-9.

1870 FARRE, ARTHUR, M.D., F.R.S. (HON. PRES.), Physician-Accoucheur to H.R.H. the Princess of Wales; 18, Albert Mansions, Victoria street, Westminster.

1871 KEILLER, ALEXANDER, M.D., F.R.S. Ed., Physician to the Royal Maternity Hospital, Lecturer on Midwifery and Diseases of Women and Children at Surgeons' Hall, Edinburgh; 21, Queen Street, Edinburgh.

1871 KIDD, GEORGE H., M.D., F.R.C.S.I., Obstetrical Surgeon to the Coombe Lying-in Hospital, and Examiner in Midwifery at the Queen's University and Royal College of Surgeons of Ireland; 30, Merrion square south, Dublin.

Elected

1870 West, Charles, M.D., F.R.C.P., Corresponding Member of the Academy of Medicine of Paris; 61, Wimpole street, Cavendish square. *Pres.* 1877-8.

FOREIGN SUBJECTS.

1872 Barker, Fordyce, M.D., Professor of Clinical Midwifery and Diseases of Women at the Bellevue Hospital Medical College, and Obstetric Physician to the Bellevue Hospital; Consulting Physician to the New York State Woman's Hospital, &c.; 85, Madison avenue, New York.

1863 Braun, Carl, M.D., Professor of Midwifery, Vienna.

1875 Courty, Amedée, M.D., Clinical Professor at the Faculty of Medicine of Montpellier.

1863 Depaul, Jean Anne Henri, M.D., Professor of Clinical Midwifery, Paris.

1863 Faye, F. C., M.D., Professor of Midwifery in the University of Christiania.

1864 Hecker, C., Von, M.D., Munich.

1866 Hugenberger, Theodor, M.D., à la Maternite et aux Enfants Trouvés Hôpital des Accouchements, Moscow.

1866 Lazarewitch, J., M.D., Kharkoff, Russia.

1864 Pajot, Ch. M.D., Professor of Midwifery to the Faculty of Medicine, Paris.

1866 Rizzoli, Francesco, M.D., Bologna.

1862 Scanzoni, F. W. von, M.D., Professor of Midwifery, Würzburg.

1864 Sims, J. Marion, M.D., late Surgeon to the Women's Hospital; 267, Madison avenue, New York.

1872 Spiegelberg, Otto, M.D., Professor of Clinical Midwifery, and Director of the Gynæcological Clinique in Breslau.

1877 Stoltz, Professor, M.D., Nancy.

1866 Thomas, Abraham Everard Simon, M.D., Leyden.

Elected

1872 Thomas, T. Gaillard, M.D., Professor of Obstetrics in the College of Physicians and Surgeons; 296, Fifth avenue, New York.

1862 Virchow, Rudolf, M.D., Professor of Pathological Anatomy in the University of Berlin.

CORRESPONDING FELLOWS.

1873 Martin, A. E., M.D., Berlin.

1876 Budin, P., M.D., Paris.

1876 Chadwick, James R., M.A., M.D., Physician for Diseases of Women, Boston City Hospital; Clarendon street, Boston, Massachusetts, U.S.

1877 Goodell, William, A.M., M.D., Professor of Clinical Gynæcology in the University of Pennsylvania; Philadelphia, Pennsylvania.

1876 Lusk, William J., M.D., Professor of Obstetrics, Bellevue Hospital Medical College; New York.

1876 Prevôt, Oscar, M.D., Moscow.

1877 Storer, Horatio, M.D., Boston, Mass.

ORDINARY FELLOWS.

JANUARY, 1878.

Those marked thus (*) have paid the Composition Fee in lieu of further annual subscriptions.

The letters O.F. are prefixed to the names of the "Original Fellows" of the Society.

Elected

1874 ADAM, A. MERCER, M.D., The Churchyard, Boston, Lincolnshire.

1869 ADAMS, THOMAS RUTHERFORD, M.D., Surgeon to the Croydon General Hospital; Stamford House, St. James's road, West Croydon, S.

1859 ALDERSEY, William Hugh, M.B. Lond., F.R.C.S., South Hayling Island, Havant, Hants.

1871 ALDERSON, FREDERICK H., Southerton House, Glenthorne road, Hammersmith.

1878 ALDRED, HENRY ALLEN, M.D., 23, York place, Portman square, W.

1878 ALFORD, FREDERICK STEPHEN, 61, Haverstock hill, N.W.

1873 ALLEN, HENRY MARCUS, M.R.C.P. Ed., 38, Regency square, Brighton.

1859 AMSDEN, GEORGE JOHN, M.D., Wynters, Widford, near Ware, Herts.

1878 ANDERSON, IZETT WILLIAM, M.D., 92, Hanover street, Kingston, Jamaica. *Hon. Loc. Sec.*

1875 ANDERSON, JOHN FORD, M.D., C.M., 28, Buckland crescent, Belsize park, N.W.

1866 ANDREWS, HENRY CHARLES, M.D., 1, Oakley square, N.W.

1859 ANDREWS, JAMES, M.D., 149, Camden road, N.W.

1870 APPLETON, ROBERT CARLISLE, Toll Garel, Beverley.

1859 ARCHER, JOHN, F.R.C.S., 9, Carpenter road, Edgbaston, Birmingham.

Elected

1871 Argles, Frank, L.R.C.P. Ed., Hermon Lodge, Wanstead, Essex, N.E.

1861 Armstrong, John, M.D., Green street green, Dartford, Kent.

O.F. Aveling, James H., M.D., Physician to the Chelsea Hospital for Women; 1, Upper Wimpole Street, W. *Council*, 1865-66, 1872. *Hon. Sec.* 1873. *Hon. Lib.* 1874-6. *Vice-Pres.* 1877-8.

1872 Ayling, Arthur H. W., 103, Great Portland street, W.

1859 Ayling, William Henry, L.R.C.P. Ed., 103, Great Portland street, W.

1873 Bailey, James Johnson, M.D., L.R.C.P. Ed., Hill Crest, Marple, Cheshire.

1875 Bailey, Thomas, Godstone, Surrey.

1877 Baker, Albert de Winter, 2, Lawn terrace, Dawlish, Devon.

1864 Baker, G. Benson, 40, Hoghton street, Southport, Lancashire.

1867 Baker, John C., M.D., F.R.C.S. Ed.; 6, Gambier terrace, Hope street, Liverpool.

1876 Baker, John Penning, 6, York place, Portman square, W.

1859 Baker, John Wright, Surgeon to the Derbyshire General Infirmary; 102, Friar gate, Derby. *Council*, 1879. *Hon. Local Sec.*

O.F. Bannister, John Henry, 436, Oxford street, W.

1869 Bantock, George Granville, M.D., Surgeon to the Samaritan Free Hospital; 12, Granville place, Portman square, W. *Council*, 1874-6.

1874 Barber, Edward, 259, Glossop road, Sheffield.

1874 Barclay, John, M.D., 10, Low street, Banff.

1877 Barfus, George Aylmer, M.D., Montreal, Canada.

O.F. Barnes, Robert, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, St. George's Hospital; 15, Harley street, Cavendish square, W. *Vice-Pres.* 1859-60. *Council*, 1861-62, 1867. *Treas.* 1863-64. *Pres.* 1865-66. *Trustee.*

Elected

1875 Barnes, R. S. Fancourt, M.B., Physician to the British Lying-in Hospital; Physician for Diseases of Women to the St. George's and St. James's Dispensary; 39, Weymouth street, Portland place, W. *Council*, 1879.

1877 Barnes, Thomas Henry, M.D., Lynton Villa, St. James's road, Croydon, S.

1863 Barratt, Joseph G., M.D., 8, Cleveland gardens, Bayswater, W.

1861* Bartrum, John S., F.R.C.S., Surgeon to the Bath General Hospital; 13, Gay street, Bath. *Hon. Loc. Sec. Council*, 1877-9.

1866 Bassett, John, M.D., Professor of Midwifery at the Queen's College, Birmingham; 144, Hockley Hill, Birmingham. *Council*, 1874-6.

1873 Bate, George P., M.D., L.R.C.P. Ed., 412, Bethnal Green road, E; and 2, Northumberland Houses, King Edward road, Hackney.

1859 Bateman, Henry, F.R.C.S., 13, Canonbury lane, Islington, N.

1867 Batten, Rayner W., M.D., Physician to the Gloucester General Infirmary; 1, Brunswick square, Gloucester. *Hon. Loc. Sec.*

1859 Battye, Richard F., M.R.C.P. Ed., 6, Gloucester street, Belgrave road, Pimlico, and 123, St. George's road, S.W.

1871 Beach, Fletcher, M.B., Clapton Asylum for Idiots, Lower Clapton, N.E.; and Darenth Asylum, Dartford, Kent.

1871 Beadles, Arthur, Park House, 11, Park road terrace, Forest hill, S.E.

1876 Beck, Joseph Reinmund, M.D., 54, Calhoun street, Fort Wayne, Indiana, U.S.

1866 Belcher, Henry, M.D., L.R.C.P. Ed.; 12, Pavilion parade, Brighton.

1871 Bell, Robert, M.D. Glasg., 29, Lynedoch street, Glasgow.

Elected

1873* Bennet, James Henry, M.D., The Ferns, Weybridge, and Mentone.

O.F. Berry, Samuel, F.R.C.S., Consulting Surgeon-Accoucheur to the Queen's Hospital, and Professor of Midwifery and the Diseases of Women and Children in the Queen's College; Hatfield House, 281, Hagley road, Edgbaston, Birmingham. *Vice-Pres.* 1859. *Hon. Loc. Sec.*

1878 Bindon, Wm. John Vereker, M.D., F.R.C.S. Ed., 2, Elm villas, Kilburn.

1868 Black, James Watt, M.D., Obstetric Physician to the Charing Cross Hospital; 15, Clarges street, Piccadilly, W. *Council*, 1872-4.

1874 Blair, William, M.D., 9, Abbey green, Jedburgh.

1861* Blake, Thomas William, Hurstbourne, Bournemouth, Hants.

1872 Bland, George, Surgeon to the Macclesfield Infirmary; Park Green, Macclesfield.

1866 Blease, Thomas, Clairville, Altrincham, Cheshire.

1874 Boddaert, Gustav, M.D., Surgeon to the Civil Hospital, and to the Lunatic Asylum, Ghent, Belgium.

1868 Boggs, Alexander, M.D., late of H.M.'s Madras Army, 362, Rue St. Honoré, Paris.

1872 Bosworth, John Routledge, Sutton, Surrey.

1866 Boulton, Percy, M.D., Physician for Out-patients to the Samaritan Free Hospital; 6, Seymour street, Portman square, W. *Council*, 1878-9.

1877 Bowkett, Thomas Edward, 239, East India Road, Poplar, E.

1869 Boyd, Herbert, Assistant-Surgeon, Indian Army, Fort William, Calcutta [agents, Henry S. King and Co., 45, Pall Mall].

Elected

1872 Bracey, Charles J., M.B., 71, Hagley road, Edgbaston, Birmingham.

1877 Bradley, Michael McWilliams, M.B., Jarrow-on-Tyne.

1873 Braithwaite, James, M.D., Lecturer on Midwifery and Diseases of Women and Children at the Leeds School of Medicine; Assistant Surgeon to the Leeds Hospital for Women and Children; Little Woodhouse, 16, Clarendon road, Leeds. *Vice-Pres.* 1877-9. *Hon. Loc. Sec.*

1862 Braithwaite, William, M.D., late Lecturer on Midwifery, Leeds School of Medicine; Clarendon House, 20, Clarendon road, Leeds. *Council*, 1869-70.

1878 Braithwaite, Harrison, F.R.C.S. Ed., Westbury house, Willesden, N.W.

1875 Brewer, Alexander Hampton, 201, Queen's road, Dalston, E.

1862 Brickwell, John, Sawbridgeworth, Herts.

1872 Bridgewater, Thomas, M.B., Harrow-on-the-Hill, N.W.

1873 Briggs, George Chapman, Harrow-on-the-Hill, N.W.

1864 Bright, John Meaburn, M.D., The Glen, Forest hill, Sydenham, S.E. *Council*, 1873-74.

1869 Brisbane, James, M.D., 21, Park road, Regent's park, N.W.

1871 Brockman, Edward Forster, Assistant-Surgeon, General Hospital, Madras, and Professor of Pathology, Madras Medical College, Madras. [19, Addison Gardens North, Kensington, W.]

1866 Brodie, George B., M.D., 3, Chesterfield street, Mayfair, W. *Council*, 1873-75.

1876 Brookhouse, Charles Turing, M.D., 35, High street, Deptford, S.E.

1878 Brooks, Job Edwin, L.R.C.P. Ed., Stafford house, Queen's park, Harrow road, W.

1868 Brown, Andrew, L.R.C.P. Ed., Elton villa, Bartholomew road, Kentish town, N.W.

Elected

1865 Brown, D. Dyce, M.D., 29, Seymour Street, Portman square, W.

1878 Brown, George, 12, Colebrooke row, Islington.

1866 Brown, George Dransfield, Henley villa, Uxbridge road, Ealing, Middlesex.

1878 Browning, Benjamin, 70, Union road, Rotherhithe.

1876 Brunjes, Martin, 27, Edgware road, W.

1865 Brunton, John, M.D., M.A., Surgeon to the Royal Maternity Charity; 21, Euston road, N.W. *Council*, 1871-3.

1863 Bryant, Thomas, F.R.C.S., Surgeon to Guy's Hospital; 53, Upper Brook street, W. *Council*, 1866-67.

O.F. Bryant, Walter John, F.R.C.S., M.R.C.P. Ed., 23a, Sussex square, Hyde park gardens, W. *Council*, 1859.

1870 Buck, Joseph Randle, L.R.C.P. Ed., 26, Sidbury, Worcester.

1871 Bulmer, Thomas Sanderson, M.D. Toronto; Reefton Hospital, Province of Nelson, New Zealand.

1878 Buncombe, J. Dobree, Prêtre Meintyes Fontein, Beaufort West, Extension Railway, Cape Colony.

1861 Bunny, Joseph, M.D., Hon. Surgeon to the Newbury Dispensary; Northbrook street, Newbury, Berks.

1877 Burchell, Peter Lodowick, M.B., Surgeon-Accoucheur to the City of London Lying-in Hospital; 2, Kingsland road, E.

1877 Burd, Edward, M.D., M.C., Senior Physician to the Salop Infirmary; Newport House, Shrewsbury.

1878 Burn, Stacey Southerdon, St. Bartholomew's Hospital.

1867 Burnett, Charles, M.B., Biggleswade, Bedfordshire.

1862 Burton, John Moulden, F.R.C.S., Lee park lodge, Lee, Kent, S.E. *Council*, 1868-69.

1878 Burton, William, L.R.C.P. Ed., 79, New North road.

1864 Butler, Frederick John, M.D., Surgeon to Winchester College and St. Cross Hospital, and to the Hants County Hospital, Winchester. *Hon. Loc. Sec.*

Elected

1868 Butt, William Frederick, L.R.C.P. Lond., 25 Park street, Park lane, W. *Council*, 1876-78.

1861 Candlish, Henry, M.D., Physician to the Alnwick Infirmary, Bondgate street, Alnwick, Northumberland.

1861 Candy, John, M.D., Staff-Surgeon, Army Medical Department. [*Per* Messrs. Price and Boustead, Army Agents, 34, Craven street, Strand, W.C.]

1872 Carless, Edward Nicholls, M.B., C.M., Lansdowne grove, Devizes, Wilts.

1863 Carlyle, David, M.D., 2, The Crescent, Carlisle.

1861 Carter, Albert Pleydell, Wellington House, London road, Gloucester.

1872 Carter, Charles Henry, M.D., Physician to the Hospital for Women ; 45, Great Cumberland place, Hyde Park, W.

1877 Carver, Eustace John, Fairlawn, Fulham.

1869 Caskie, John Boyd, M.D., 89, Goswell road, E.C.

1878 Caskie, William Alex., M.A., M.B., Manse Court, 17, Main street, Largs, Ayrshire, N. B.

1870 Causton, William Henry, 1, Pomona place, Hammersmith.

1863 Cayzer, Thomas, Mayfield, Aigburth, Liverpool.

1875 Chaffers, Edward, F.R.C.S., 54, North street, Keighley, Yorkshire.

1873 Chalmers, John, M.D., 43, Caledonian road, N.

1864 Chambers, Thomas, F.R.C.P. Ed., F.R.C.S. Ed., Senior Physician to the Chelsea Hospital for Women, Consulting Physician Accoucheur to the Western Maternity ; 64, Chester square, S.W. *Council*, 1874-6.

1876 Champneys, Francis Henry, M.A., M.B. Oxon., 11, Wyndham place, Bryanston square, W.

1859 Chance, Edward John, F.R.C.S., Surgeon to the Metropolitan Free Hospital and City Orthopædic Hospital ; 59, Old Broad street, City, E.C.

1862 Chapman, Walter, F.R.C.S., Lower Tooting, Surrey.

Elected

1867* Charles, T. Edmondstoune, M.D., Professor of Midwifery at the Calcutta Medical College, 10, Harrington street, Calcutta. *Hon. Loc. Sec.*

1874 Charlesworth, James, 27, Birch terrace, Hanley, Staffordshire.

1865* Charlton, Egbert, M.D.

1863 Chavasse, Pye Henry, F.R.C.S., 214, Hagley road, Edgbaston.

1868 Child, Edwin, New Malden, Kingston-on-Thames, Surrey.

1863* Chisholm, Edwin, M.D., 161, Macquarie street, Sydney, New South Wales. [Per Messrs. Turner and Henderson, care of Messrs. W. Dawson, 121, Cannon street, E.C.].

1859 Claremont, Claude Clarke, Millbrook House, 1, Hampstead road, N.W.

1859 Clark, James Fenn, Clent house, Beauchamp square, Leamington. *Hon. Loc. Sec.*

1874 Clark, James Henry, L.R.C.P. Ed., Mandeville, Manchester, Jamaica.

1872 Clarke, William Michell, late Surgeon to the British General Hospital; 2, York buildings, Clifton, Bristol.

O.F. Clay, Charles, M.D., late Lecturer on Midwifery and Clinical Medicine in St. Mary's Hospital, Manchester; Audenshaw Lodge, Audenshaw; and 101, Piccadilly, Manchester. *Council*, 1863-65.

1876 Clay, George Langsford, West View, 443, Moseley road, Birmingham.

O.F. Clay, John, Professor of Midwifery, Queen's College, Birmingham; Allan House, 138-9, Steelhouse lane, Birmingham. *Council*, 1868-69. *Vice-Pres.* 1872-4.

O.F. Cleveland, William Frederick, M.D., Stuart villa, 199, Maida vale, W. *Council*, 1863-64. *Vice-Pres.* 1875-77.

1877 Clifton, Nathaniel Henry, F.R.C.S.E., Consulting Surgeon to the Islington Dispensary; 20, Cross Street, Islington, N.

1861 Clogg, Stephen, East Looe, Cornwall.

Elected

1865* Coates, Charles, M.D., Physician to the Bath General and Royal United Hospitals; 10, Circus, Bath.

1860 Cockell, Edgar, Holly lodge, 62, Forest road, Dalston, N.E.

1859 Cockell, Frederick Edgar, 144, Amherst road, Hackney, N.E.

1878 Cockell, Frederick Edgar, Jun., 62, Forest road, Dalston.

1875 Coffin, Richard Jas. Maitland, M.R.C.P. Ed., 4, Wetherby terrace, Earl's court road, South Kensington, S.W.

1878 Coffin, Thomas Walker, Grove cottage, Clarendon road, Clapton, E.

1875 Cole, Richard Beverly, M.D. Jefferson Coll. Philad., San Francisco, California, U.S. [*Per* Mr. Henry Perkins, 14, Ampthill square, Regent's park.]

1876 Coleman, Matthew Owen, M.D., 5, Victoria terrace, Surbiton, Surrey.

1877 Colman, Walter Tawell, Hon. Surgeon to the Brighton Hospital for Women; 87, Buckingham road, Brighton.

1866 Coombs, James, M.D., Bedford.

1873 Cooper, Frank W., Leytonstone, Essex.

1874 Cooper, Herbert, L.R.C.P. Ed., 3, Rosslyn terrace, Hampstead, N.W.

1861 Cooper, John, M.R.C.P. Ed., Clapham rise, S.W.

1872 Coote, Michael, M.D., 15, Ivanhoe terrace, Ashby-de-la-Zouch.

1865 Copeman, Edward, M.D., Physician to the Norfolk and Norwich Hospital; Upper King street, The Close, Norwich. *Council*, 1869-71. *Vice-Pres.*, 1873-5. *Hon. Loc. Sec.*

1875 Cordes, Aug., M.D., Professor of Obstetrics at the University of Geneva; 8, Corraterie, Geneva.

1866 Cornwall, James, F.R.C.S., Fairford, Gloucestershire.

1860 Corry, Thomas Charles Steuart, M.D., Senior Surgeon to the Belfast General Dispensary; 146, Donegall Pass, Belfast. *Council*, 1867. *Hon. Loc. Sec.*

1859 Cory, Frederick Charles, M.D., Portland villa, Buckhurst hill, Essex. *Council*, 1867-69.

Elected

1875 Cory, Robert, M.B., Assistant Obstetric Physician to St. Thomas's Hospital; Palace road, Albert Embankment, S.E. *Council*, 1879.

1863 Coward, John W., Christchurch, Canterbury, New Zealand [agents: Messrs. Arthur Hill and Sons, 101, Southwark street, S.E.]. *Hon. Loc. Sec.*

1869 Cox, Richard, L.R.C.P. Ed., Theale, near Reading.

1877 Crawford, James, L.K.Q.C.P.I., Ightham, Sevenoaks.

1876 Crew, John, Higham Ferrers, Northamptonshire.

1859 Croft, J. McGrigor A. T., M.D., M.R.C.P., 15, Abbey road, St. John's Wood, N.W.

1866 Croft, Robert Charles, L.R.C.P. Ed., 204, Camden road, N.W.

1874 Crombie, Charles Mann, M.B. & C.M., 9, Union terrace, Aberdeen.

1860 Cross, Richard, M.D., Carlton House, Belmont road, Scarborough, Yorkshire. *Hon. Loc. Sec.*

1869 Cross, Robert Shackleford, Petersfield, Hants.

1867 Croucher, Henry, West Hill, Dartford, Kent.

1876 Croudace, J. H., Assistant Medical Officer, East Riding Asylum, Beverley, Yorkshire.

1875 Cullingworth, Charles James, Surgeon to St. Mary's Hospital, Manchester; 260, Oxford road, Manchester.

1859 Culpeper, William Moe, 1, Brunswick terrace, Palace gardens, Kensington, W.

1862 Cumberbatch, Lawrence Trent, M.D., 25, Cadogan place, Belgrave square, S.W. *Council*, 1868-70. *Vice-Pres.*, 1878.

1867 Cuolahan, Hugh, M.D., 9, Grange road, Bermondsey, S.E.

1859 Curgenven, J. Brendon, 11, Craven hill gardens, Bayswater, W. *Council*, 1870-72.

1868 Daly, Frederick Henry, M.D., 101, Queen's road, Dalston, N.E. *Council*, 1877-9.

1876 Davies, Gomer, L.R.C.P. Ed., 66, Pembridge villas, Bayswater, W.

1878 Davies, Henry Naunton, Glyn Rhondda House, Cymer, Pontypridd, Glamorganshire.

Elected

O.F. DAVIS, JOHN HALL, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women and Children at, the Middlesex Hospital; Physician to the Royal Maternity Charity; Consulting Physician-Accoucheur to the St. Pancras Infirmary; 24, Harley street, Cavendish square, W. *Council*, 1859, 1864-65. *Vice-Pres.* 1861-63. *Pres.* 1867-68.

1863 DAVIS, ROBERT ALEX., M.D., Resident Physician, County Asylum, Burntwood, near Lichfield, Stafford.

1873 DAVISON, FRANCIS, L.R.C.P. Ed., Elton, Bury, Lancashire.

1877 DAVSON, SMITH HOUSTON, M.D., Camden villa, 203, Maida vale, W.

1878 DAY, EDMUND OVERMAN, House Surgeon to the Royal Infirmary for Children and Women, Waterloo Bridge road.

1859 DAY, WILLIAM HENRY, M.D., Physician to the Samaritan Free Hospital for Women and Children; 10, Manchester square, W. *Council*, 1873-75.

1877 DEAN, MARSHALL M. P., M.D., Peterboro', Toronto, Ontario, Canada.

1872 DENTON, GEORGE BAGSTER, Surgeon to the Ladies' Charity and Lying-in Hospital; 2, Abercromby square, Liverpool.

1877 DEWAR, JOHN, L.R.C.P. Ed., 132, Sloane street, S.W.

1860 DICKENSON, JOHN, F.R.C.S., Hon. Surgeon to the Wrexham Infirmary; Wrexham, Denbighshire.

1877 DONOVAN, JOHN ISLAND, M.D., Ballincollig, Co. Cork.

O.F. DRAGE, CHARLES, M.D., Hatfield, Herts. *Council*, 1861-4.

1878 DRING, WILLIAM ERNEST, L.R.C.P. Ed., Boughton-under-Blean, Faversham, Kent.

1876 DUKE, GEORGE AMOS, 9, Cornwall road, Westbourne road, W.

O.F. DUNCAN, JAMES, M.B., 8, Henrietta street, Covent garden, W.C. *Council*, 1873-74.

1859 DUNCAN, PETER CHARLES, M.D., 7, Hanover street, Hanover square, W.

Elected

1871 Eastes, George, M.B., F.R.C.S., Surgeon-Accoucheur to the Western General Dispensary; 69, Connaught street, Hyde park square, W. *Council*, 1878-79.

1866 Easton, John, M.D., 19, Norfolk Crescent, Hyde park, W. *Council*, 1878.

1878 Eaton, John Chamberlin, Ancaster, Lincolnshire.

1877 Eddowes, William, Surgeon to the Salop Infirmary, The College, Shrewsbury.

1867 Edis, Arthur W., M.D., Assistant-Physician-Accoucheur to the Middlesex Hospital; Physician to the British Lying-in Hospital; 22, Wimpole street, W. *Council*, 1873-74. *Hon. Sec.* 1874-77. *Vice-Pres.* 1878-9.

1876 Elischer, Julius, M.D., Assistant Physician to the University of Buda-Pest, v. Badgasse 4, Buda-Pest, Hungary.

1878 Ellery, Richard, L.R.C.P. Ed., Plympton, Devon.

1862 Ellison, James, M.D., Surgeon to H.M.'s Household, Windsor; 14, High street, Windsor, Berks. *Council*, 1873-75.

1873 Engelmann, George Julius, A.M., M.D., 3003, Locust street, St. Louis, Missouri, U.S.

1871 Evans, Thomas Walter, 101, Heyworth street, Everton, Liverpool.

1875 Ewart, John Henry, Surgeon to St. Mary's Hospital for Women and Children; Limefield House, Cheetham hill, Manchester.

1875 Eyeley, Joseph Frederick, L.R.C.P. Lond., 5, Hill-park crescent, Plymouth.

1865 Fairbank, Thomas, M.D., Surgeon to H.M. the Queen and the Royal Household, Windsor Castle; Moulsey House, Sheet street, Windsor, Berks.

1859 Faircloth, Richard, F.R.C.S., Newmarket, Cambridgeshire.

1876 Farncombe, Richard, 40, Belgrave street, Balsall heath, Birmingham.

1869 Farquhar, William, M.D., Surgeon-Major, Madras Army, Bangalore, Madras Presidency. [24, Pembroke gardens, Kensington.]

1861 Farr, Geo. F., L.R.C.P. Ed., Slade House, 175, Kennington road, S.E.

Elected

1868 Fegan, Richard, M.D., 1, Charlton park terrace, Old Charlton, Kent.

1872 Fergusson, Alexander, M.D., F.R.C.S. Ed., Briarbank, Tweedvale, Peebles, N.B.

1861 Fetherston, Gerald H., M.D.; Hon. Physician to the Melbourne Lying-in Hospital, Prahran, Melbourne, Victoria. *Hon. Loc. Sec.*

1873 Finegan, James Herbert, M.D., 48, Rodney street, Liverpool.

1876 Finlay, David W., M.D., 21, Montagu street, Portman square, W.

1870 Fisher, John Moore, M.D., 2, Balmoral terrace, Anlaby road, Hull.

1873 Fitch, Simon, M.A., M.D., Halifax, Nova Scotia.

1874 Fitzrayne, William Allen, 10, Freeschool street, Horselydown, S.E.

1868 Fletcher, Edward, Lygon street, Carlton, Melbourne, Victoria.

1878 Flint, Arthur, Westgate-on-Sea, Margate, Kent.

1877* Fonmartin, Henry de, M.D., House Physician, Seamen's Hospital, Greenwich.

1876 Forbes, Litton, Buckingham Club, 1, Regent street, S.W.

1877* Ford, James, M.D., Eltham, Kent.

1865 Fowler, James, F.S.A., Hon. Surgeon to the Clayton Hospital and Wakefield General Dispensary; 13, South Parade, Wakefield. *Council*, 1872-4. *Hon. Loc. Sec.*

1866 Fox, Cornelius Benjamin, M.D., Medical Officer of Health, Maldon Union Sanitary District, Grove House, Great Buddow, near Chelmsford, Essex.

1877 Foxon, Foxon, 231, Brompton road, S.W.

1862 Frain, Joseph, M.D., Hon. Surgeon to the South Shields Dispensary; Frederick street, South Shields.

1861 Frankland, Thomas Thrush, Surgeon to the Ripon Dispensary, North House, Ripon, Yorkshire.

1875 Fraser, Angus, M.D., 232, Union street, Aberdeen.

1874 Fraser, Robert Maclean, L.R.C.P. Ed., 6, North terrace, Northgate, Darlington.

1867 Freeman, Henry W., 24, Circus, Bath.

Elected

1867 Fryer, Charles, L.K.Q.C.P.I.; Sherburn, East Riding, Yorkshire.

1867 Fuller, Charles C., 33, Albany street, Regent's park, N.W.

1874* Galabin, Alfred Lewis, M.A., M.D., Assistant-Physician to the Hospital for Sick Children; Assistant Obstetric Physician to Guy's Hospital; 14, St. Thomas's street, Southwark, S.E. *Council*, 1876-78. *Hon. Lib.* 1879.

1863 Galton, John H., M.D., Woodside road, Upper Norwood, S.E. *Council*, 1874-6.

1872 Gardner, W., M.A., M.D., 525, St. Joseph street, Montreal, Canada.

1863 Garman, Henry Vincent, Kent House, 6, Bow road, E.

1876 Garner, John, 85, New Hall street, Birmingham.

1873 Garton, William, M.B., F.R.C.S., Hardshaw street, St. Helen's, Lancashire.

1859 Gaskoin, George, 7, Westbourne park, W. *Council*, 1870-72.

1875 Gawith, J. Jackson, 23, Westbourne park terrace, W.

1869 Geikie, Walter B., M.D., F.R.C.S. Ed., Professor of the Principles and Practice of Medicine and of Clinical Medicine in the University of Trinity College, Toronto, Ontario, Canada.

1877 Gell, Thomas Silvester, M.D., St. John's Lodge, Kensal green, W.

1859 Gervis, Henry, M.D., F.R.C.P., Obstetric Physician to, and Lecturer upon Obstetric Medicine at, St. Thomas's Hospital; Physician to the Royal Maternity Charity; 13, St. Thomas's street, Southwark, S.E. *Council*, 1864-66. *Hon. Sec.* 1867-70. *Vice-Pres.* 1871-3. *Treas.* 1878-79.

1866 Gervis, Frederick Heudebourck, 1, Fellows road, Haverstock hill, N.W. *Council*, 1877-9.

1875 Gibbings, Alfred Thomas, M.D., 93, Richmond road, Dalston, N.E.

1874 Gibson, James Edward, Bath road, West Cowes, Isle of Wight.

1866 Giddings, William Kitto, L.R.C.P. Ed., Shaftesbury House, Calverley, near Leeds, Yorkshire.

Elected

1877 Giffard, Douglas William, 44, Old Steyne, Brighton.

1875 Giles, Peter Broome, L.R.C.P. Ed., Staunton-on-Wye, Hereford.

1869 Gill, William, L.R.C.P. Lond., 11, Russell square, W.C.

1867 Gittins, John, L.R.C.P. Ed., St. Olave's Union, Parish street, Southwark, 134, Tooley street, S.E.

1871 Goddard, Eugene, L.R.C.P. Lond., North Lynne, Highbury New Park, N.

1876 Godfray, Alfred Charles, M.B., L.R.C.P. Ed., 45, La Motte street, Jersey.

1877 Godson, Charles, F.R.C.S., 1, Astwood road, Cromwell road, South Kensington, S.W.

1871 Godson, Clement, M.D., C.M., Assistant Physician-Accoucheur to St. Bartholomew's Hospital; Physician to the Samaritan Free Hospital; 8, Upper Brook street, Grosvenor square, W. *Council*, 1876-77. *Hon. Sec.* 1878-9.

1868 Godwin, Ashton, M.D., 28, Brompton crescent, Brompton, S.W.

1873 Goldsmith, John, M.D., Highworth House, Worthing, Sussex.

1873 Goodchild, Nathaniel, L.R.C.P. Ed., 9, Highgate road, N.W.

1869 Goss, Tregenna Biddulph, 36, The Paragon, Bath.

1875 Gray, James, M.D., 15, Newton terrace, Glasgow.

1874 Greene, William Thomas, M.A., L.K.Q.C.P.I., 218, Old Kent road, S.E.

1863 Griffith, G. de Gorrequer, Physician to the Hospital for Women and Children, Pimlico; Physician-Accoucheur to St. Saviour's Maternity; 9, Lupus street, St. George's square, S.W.

1869 Griffith, John T., M.D., Talfourd House, Camberwell.

1870 Grigg, William Chapman, M.D., Physician to the In-patients, Queen Charlotte's Lying-in Hospital; Assistant Obstetric Physician to the Westminster Hospital; Assistant-Physician to the Victoria Hospital for Children; 6, Curzon street, Mayfair. *Council*, 1875-77.

Elected

O.F. GRIMSDALE, THOS. F., L.R.C.P. Ed., Consulting Surgeon to the Lying-in Hospital, and late Lecturer on Diseases of Children, &c., at the Royal Infirmary School of Medicine; 29, Rodney street, Liverpool. *Council*, 1861-62. *Vice-Pres.* 1875-76.

1876 GROOM, CHARLES FREDERIC, M.D., 1, Hawley road, N.W.

1877 GROSHOLZ, FREDERICK HERMANN VARLEY, L.K.Q.C.P.I., Pier House, Aberdovey, Merionethshire, North Wales.

1876 GROTH, ERNST R. G., M.D., 5, Weymouth street, Portland place, W.

1865 GWYN, GEORGE F., Westcroft House, Hammersmith, W.

1876 HABGOOD, HENRY, M.D., Sussex House, Bolton road, Eastbourne, Sussex.

1867 HADAWAY, JAMES, L.R.C.P. Ed., 47B, Welbeck street, Cavendish square, W.

1876 HADDEN, JOHN, M.D., 31, West street, Horncastle, Lincolnshire.

O.F. HALL, ALFRED, M.D., Senior Physician to the Brighton Dispensary; Furze Hill House, Furze hill, Brighton. *Council*, 1864-65. *Vice-Pres.* 1866-68. *Hon. Loc. Sec.*

1859 HALL, FREDERICK, 1, Jermyn street, St. James's, S.W.

1867 HALL, JOHN HENRY WYNNE, L.R.C.P. Ed., 33, Albert terrace, Albert square, Clapham road, S.W.

1871 HALLOWES, FREDERICK B., Redhill, Reigate, Surrey.

1876 HAMMOND, CHARLES, 9, George street, Manchester square, W.

1874 HANNAN, FRANCIS JOHN, M.B., Avonside, Downton, Wilts.

1860 HARDEY, KEY, Surgeon to the West City Dispensary; 4, Wardrobe place, Doctors' Commons, E.C.

1872 HARDING, WILLIAM, F.R.C.S., 4, Percy street, Bedford square, W.C.

1877 HARDWICKE, WILLIAM WRIGHT, L.R.C.P. Ed., 1, Westgate, Rotherham.

1877 HARPER, GERALD S., St. George's Hospital, Hyde park corner, S.W.

Elected

O.F. Harper, Philip H., F.R.C.S., 30, Cambridge street, Hyde park, W.

1878 Harries, Thomas Davies, 36, North Parade, Aberystwith, Cardiganshire.

O.F. Harrinson, Isaac, F.R.C.S., Castle street, Reading, Berks. *Council*, 1862-65. *Hon. Loc. Sec.*

1862 Harris, Charles, M.D., Northiam, Ashford, Kent.

1871 Harris, Charles James, 11, Kilburn Priory, N.W.

1872 Harris, Henry, M.D., F.R.C.S., Trengweath place, Redruth, Cornwall.

1867 Harris, William H., M.D., Professor of Midwifery in the Madras Medical College, and Superintendent of the Lying-in Hospital, Madras [agent: Mr. H. K. Lewis, Gower street].

1861 Harris, William John, 13, Marine Parade, Worthing. *Hon. Loc. Sec.*

1865 Harvey, Robert, M.D., Civil Surgeon of Bhurtpore, near Agra, India [*viâ* Bombay]. [Per Messrs. Cochran and Anderson, 152, Union street, Aberdeen.]

1873 Hatherly, Henry Reginald, L.R.C.P. Ed., Wellington street, Park side, Nottingham.

1865 Hayes, Hawkesley Roche, Basingstoke, Hants.

1873 Hayes, Thomas Crawford, M.D., Assistant Obstetric Physician to King's College Hospital; 17, Clarges street, Piccadilly, W. *Council*, 1876-78.

1876 Hebblethwaite, James Edward, M.D., Bawtry, Yorkshire.

1867 Hembrough, John William, Ivy cottage, Waltham, Grimsby.

1870 Henderson, Alexander, 2, Meadow Bank place, Rose vale, Partick, Glasgow.

1878 Henry, Louis, M.D., Melbourne, Victoria, Australia [per J. Kilpatrick, Esq., 2, Northampton Square, Clerkenwell, E.C.].

1876 Herman, George Ernest, Assistant Obstetric Physician to the London Hospital, 20, Finsbury square, E.C. *Council*, 1878-79.

1860 Hess, Augustus, M.D., Physician to the Jews' Hospital, Norwood; 14, Artillery place, Finsbury square, E.C.

Elected

O.F. Hewitt, Graily, M.D., F.R.C.P., Professor of Midwifery in University College, London, and Obstetric Physician to University College Hospital; 36, Berkeley square, W. *Hon. Sec.* 1859-64. *Treas.* 1865-66. *Vice-Pres.* 1867-68. *Pres.* 1869-70.

1862 Hewitt, Tom Smith, M.D., Ivy Cottage, Winkfield, Windsor, Berks.

1867 Hickinbotham, James, M.D., L.R.C.P. Ed., Physician to Birmingham and Midland Hospital for Women; 17, Easy row, Birmingham.

1876 Hicks, Edward John W., M.B., C.M., 24, George street, Hanover square, W.

1860 Hicks, John Braxton, M.D., F.R.C.P., F.R.S., Physician-Accoucheur to, and Lecturer on Midwifery and the Diseases of Women and Children at, Guy's Hospital; 24, George street, Hanover square. *Council*, 1861-2, 1869. *Hon. Sec.* 1863-65. *Vice-Pres.* 1866-68. *Treas.* 1870. *Pres.* 1871-2.

1860 Higgs, Thomas Frederic, L.R.C.P. Ed., 194, High street, Dudley, Worcestershire.

1872 Hilliard, Robert Harvey, M.D., 5, Belgrave terrace, Upper Holloway, N.

1868 Hime, Thomas Whiteside, M.B., 217, Glossop road, Sheffield.

1878 Hinton, James Thomas, Croydon.

1876 Hoar, William, Maidstone, Kent.

O.F. Hodges, Richard, M.D., F.R.C.S., 16, Orchard street, Portman square, W.

1864 Hoffmeister, William Carter, M.D., Surgeon to the Queen in the Isle of Wight; Clifton House, Cowes, Isle of Wight. *Council*, 1877-9.

1874 Hoggan, George, M.B., 7, Trevor terrace, Rutland gate, S.W.

1876 Holden, J. Sinclair, M.D., Sudbury, Suffolk.

1876 Holland, Neville, Hadwen House, Victoria road, Kilburn, N.W.

Elected

1875 Hollings, Edwin, L.R.C.P. Ed., 36, Euston square, N.W.

1859 Holman, Constantine, M.D., Barons, Reigate, Surrey. *Council*, 1867-69. *Vice-Pres.* 1870-71.

1860 Holman, Henry Martin, M.D., Hurstpierpoint, Sussex.

1864 Hood, Wharton Peter, M.D., 65, Upper Berkeley street, Portman square, W.

1872 Hope, William, M.D., Physician to Queen Charlotte's Lying-in Hospital; 56, Curzon street, Mayfair, W. *Council*, 1877-9.

1874 Hopkins, Alfred Boyd, 180, Shoreditch, E.

1876 Horsman, Godfrey Charles, 22, King street, Portman square, W.

1861 Horton, George Edward, Castle street, Dudley, Worcestershire.

1864 Houghton, Henry George, L.K.Q.C.P. Ireland; 6, Mount street, Grosvenor square, W.

1877 Howell, Horace Sydney, M.D, 11, Boundary road, St. John's Wood, N.W.

1876 Hue, Jude, M.D., 15, Rue Jeanne d'Arc, Rouen, France.

1878 Husband, Walter Edward, St. Bartholomew's Hospital, West Smithfield, E.C.

1859 Hutchinson, Jonathan, F.R.C.S., Surgeon to the London Hospital; 15, Cavendish square, W. *Council*, 1869-71.

1861 Hutton, Charles, M.D., Physician to the General Lying-in Hospital; 26, Lowndes street, Belgrave square, S.W.

1877 Ilott, James John, L.R.C.P. Ed., Resident Medical Officer, Whitechapel Union Infirmary, Baker's row, E.

1876 Irwin, John Arthur, M.A., M.D., Brooks's Bar, Manchester.

1864 Jackson, Edward, M.B., Surgeon to the Sheffield Hospital for Women; Fern Bank, Glossop road, Sheffield. *Hon. Loc. Sec.*

1864 Jackson, Robert, M.D., 53, Notting hill square, W.

1876 Jakins, Isaac Negus, 32, Osnaburgh street, Regent's park, N.W.

Elected

1873 JAKINS, WILLIAM VOSPER, L.R.C.P. Ed., Sturt street, Ballarat, Victoria. [Per Isaac N. Jakins, Esq., 32, Osnaburgh street, Regent's park.]

1872 JALLAND, ROBERT, Horncastle, Lincolnshire.

1877 JAMES, ARTHUR CULVER, M.D., 11, Marloes road, South Kensington.

1878 JAMES, WALTER CULVER, M.D., M.Ch., 11, Marloes road, Kensington, W.

1877 JAMIESON, PATRICK, M.A., 3, St. Peter's street, Peterhead, Aberdeenshire.

1862 JAY, FREDERICK FITZHERBERT, Audlem, Nantwich, Cheshire.

1877 JENKS, EDWARD W., M.D., 84, L. Avenue, Detroit, Michigan, U.S.

1859 JENNINGS, JOSEPH C. S., Abbey House, Malmesbury, Wilts.

1877 JOHNSON, SAMUEL, M.D., 5, Hill street, Stoke-upon-Trent.

1861 JONES, EDWARD, M.D., 48, Sydenham Park, Kent.

1868 JONES, EVAN, Ty-Mawr, Aberdare, Glamorganshire.

1878 JONES, H. MACNAUGHTON, M.D., Physician to the Cork Maternity, and County and City of Cork Hospital for Diseases of Women and Children; 4, Camden place Cork.

1868 JONES, JOHN, 60, King street, Regent street, W.

1874 JONES, JOHN THOMAS, L.K.Q.C.P. I., 179, Brixton road, S.W.

1876 JONES, LESLIE, M.D., C.M., 3, Brighton parade, Blackpool.

1873 JONES, PHILIP W., Baker street, Enfield, Essex.

1877 JONES, THOMAS DERRY, L.R.C.P. Ed., 328, Upper Street, Islington, N.

1873 JONES, THOMAS EYTON, Surgeon to the Denbigh Infirmary; Grosvenor Lodge, Wrexham.

1868 JORDAN, WILLIAM ROSS, Surgeon to the Birmingham Hospital for Women; Manor House, Moseley, near Birmingham.

1878 JUDSON, THOMAS ROBERT, 16, Wyvell road, Forest hill.

1875 JUKES, AUGUSTUS, M.B. Trin. Coll. Toronto; St. Catherine's, Ontario.

Elected

1878 KANE, NATHANIEL H. K., M.D., Lanherne, Kingston hill, Surrey.

O.F. KEELE, GEORGE THOMAS, 81, St. Paul's road, Highbury, N.

1874 KEMPSTER, WILLIAM HENRY, L.R.C.P. Ed., Oak House, Bridge road, Battersea.

1865* KERNOT, GEORGE CHARLES, M.D., 5, Elphinstone road, Hastings, Sussex.

1872 KERR, NORMAN S., M.D., F.L.S., 42, Grove road, Regent's park, N.W.

1877 KERSWILL, GEORGE, Looe, Cornwall.

1877 KERSWILL, JOHN BEDFORD, M.R.C.P. Ed., Fairfield, St. German's, Cornwall.

1878 KHORY, RUSTOMJEE NASERWANJEE, M.D. Brussels, L.Med. Bombay, Physician to the Parell Dispensary, Bombay, Lecturer to Native Midwives, Grant Medical College, Bombay [47, Minford gardens, West Kensington park, W.].

O.F. KIALLMARK, HENRY WALTER, 66, Prince's square, Westbourne grove, W.; and 42, Cornwall road, Westbourne park. *Council*, 1879.

1869 KINGSFORD, C. DUDLEY, M.D., 12, Clapton Common, Upper Clapton, N.E. *Council*, 1879.

1860 KINGSFORD, EDWARD, F.R.C.S., Surgeon to the Sunbury Dispensary; Sunbury, Middlesex.

1862 KIRKPATRICK, JOHN RUTHERFORD, M.B. Dubl., Examiner in Midwifery, Royal College of Surgeons, Ireland; 4, Upper Merrion street, Dublin. *Council*, 1872-4.

1872* KISCH, ALBERT, 46, Portsdown road, Maida hill, W.

1867 KNAGGS, HENRY GUARD, M.D., 189, Camden road, N.W.

1877 KNIGHT, CHARLES FREDERICK, 8, Northampton square, Clerkenwell, E.C.

1876 KNOTT, CHARLES, L.R.C.P. Ed., Ashford House, Mile End, Portsmouth.

1872 KONRÁD, MARK, M.D., The Vienna Hospital, Vienna, Austria; and Gross-Wardein, Hungary.

Elected

1876 Lanchester, Henry Thomas, M.D., Park House, Park lane, Croydon, Surrey.

1878 Lang, Alex. M., M.B., 51, Warwick road, South Kensington.

1867 Langford, Charles P., 29, Duncan terrace, Islington, N.

O.F. Langmore, John Charles, M.B., F.R.C.S., 20, Oxford terrace, Hyde park, W. *Council*, 1861-64. *Vice-Pres.* 1869-71.

1866 Langston, Thomas, L.R.C.P. Ed., 29, Broadway, Westminster, S.W.

1872 Lattey, James, 23, St. Mary Abbott's terrace, Kensington, W.

1875 Lawrence, Alfred Edward Aust, M.D., Physician-Accoucheur to the Bristol General Hospital; 15, Richmond hill, Clifton, Bristol.

1878 Leachman, Albert Warren, M.D., Fairley, Petersfield, Hants.

1867 Leaf, Walter, Surgeon to the St. Marylebone General Dispensary; 14, Furnival's Inn, Holborn, E.C.

1875 Lee, Francis Boynton, F.R.C.P. Ed., The Elms, Heckmondwike, Normanton, Yorkshire.

1876 Leighton, Walter Henry, M.D., Lowell, Massachusetts, U.S.

1860 Leishman, William, M.D., Physician to the University Lying-in Hospital, Regius Professor of Midwifery in the University of Glasgow; 11, Woodside crescent, Glasgow. *Council*, 1866-68. *Vice-Pres.* 1869-70.

1872 Leonard, Crosby, Surgeon to the Bristol Royal Infirmary; Rockleigh House, White Ladies road, Clifton, Bristol.

1868 Leslie, William Burnup, M.D., Stonehaven, Kincardineshire.

1874 Lewis, Charles Francis, L.R.C.P. Ed., Bromfield's, Henfield, Sussex.

1874 Lewis, Henry Harman Dendy, 120, Drummond street, Euston square, N.W.

Elected

1877 Lewis, John Riggs Miller, M.D., Deputy-Surgeon General, 1, Windsor road, Ealing, W.

1875 Liebman, Carlo, M.D. Vienna, Principal Surgeon, Trieste Civil Hospital, Trieste, Austria.

1876 Lilley, George Herbert, M.D., M.R.C.P., Warwick County Lunatic Asylum, Hatton, Warwick.

1874 Lithgow, Robert Alexander Douglas, L.R.C.P. Ed., 13, North Brink, Wisbeach, Cambridgeshire.

1868 Llewellyn, Evan, L.R.C.P. Ed., 9, Mount placé, London Hospital, E.

1872* Lock, John Griffith, M.A., Lansdowne House, Tenby.

1859 Lombe, Thomas Robert, M.D., Bemerton, Torquay.

1870 Long, Mark, M.D., 185, Amhurst road, Hackney, N.E.

1878 Lorimer, John Archibald, 33, Castle street, Farnham.

1874 Louttit, James, M.D., Trafalgar road, Greenwich, S.E.

1866 Lovegrove, Charles, M.D., The Oaks, Hythe, Kent.

1872 Lovegrove, James F., Ightham, Sevenoaks, Kent.

1876 Lovett, Henry Albert, Assistant Medical Officer, County and City Lunatic Asylum, Powick, near Worcester.

1862 Lowe, George, F.R.C.S., Burton-on-Trent, Staffordshire.

1866 Lucey, William Cubitt, M.D.

1873 Lush, William John Henry, L.R.C.P.Ed., Fyfield House, Andover.

1878* Lycett, John Allan, The "Hollies," Graiseley, Wolverhampton.

1869 Lydall, Wykeham H., L.R.C.P. Ed., 19, Mecklenburgh square, W.C.

1876 Maberly, William Henry, M.B., C.M. Edinb., Arboretum, Leamington.

1871 McCallum, Duncan Campbell, M.D., Professor of Midwifery and Diseases of Women and Children, McGill University; Physician to the University Lying-in Hospital; and Physician to the Montreal General Hospital; Montreal, Canada.

1878 Macdonald, Albert Angus, M.B., 169, Queen street West, Toronto, Canada.

Elected

1873 Macdonald, John Alexander, M.D., Woburn, Bedfordshire.

O.F. Mackinder, Draper, M.D., Consulting-Surgeon to the Gainsborough Dispensary; Gainsborough, Lincolnshire. *Council*, 1871-3.

1877 Maclean, Norman Collier, M.D.

1872 MacMordie, William Kirkpatrick, M.D., 1, College square east, Belfast.

1861 McVeagh, Dennis, L.K.Q.C.P. Ireland, 33, Bishop street, Coventry, Warwickshire.

1866 Maddever, John Coombe, M.D., 19, Battery place, Rothesay.

1859 Madge, Henry M., M.D., 4, Upper Wimpole street, W. *Council*, 1863-65. *Vice-Pres.* 1872-4.

1871 Malins, Edward, M.D., Obstetric Physician to the General Hospital, Birmingham; 8, Old square, Birmingham.

1876 Manby, Frederick Edward, 10, King street, Wolverhampton.

1876 Manders, Horace, 1, York terrace, York town, Farnborough Station.

1868 March, Henry Colley, M.D., 2, West street, Rochdale.

1860 Marley, Henry Frederick, Padstow, Cornwall.

1859 Marley, Richard, 100, Trafalgar road, Peckham, S.E.

1862 Marriott, Robert Buchanan, Swaffham, Norfolk.

1876 Marshall, Francis John, Resident Medical Officer to St. George's Hospital.

1873 Martin, Henry Charrington, M.B., C.M., 11, Somers place, Hyde park, W.

1864 Martin, Lawrence J., M.D., Physician to the Melbourne Lying-in Hospital; 126, Collins street east, Melbourne, Victoria.

1875 Mason, John Wallis, 1, Osnaburgh terrace, Regent's park, W.

Elected

1877 Mason, Samuel Butler, L.R.C.P. Ed., 11, Park terrace, Pontypool, Monmouth.

1877 Maunsell, H. Widenham, A.M., M.D., Pitt and London street, Dunedin, New Zealand.

1867 May, Henry, L.R.C.P. Lond., 37, Birchfield road, Aston, Birmingham.

1877 May, Lewis James, 371, Holloway road, N.

O.F. Meadows, Alfred, M.D., Physician-Accoucheur to, and Lecturer on Midwifery at, St. Mary's Hospital; 27, George street, Hanover square, W. *Council*, 1862-64. *Hon. Sec.* 1865-66. *Hon. Lib.* 1865. *Treas.* 1867-69. *Vice-Pres.* 1874-6.

1875 Miles, Abijah J., M.D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine, Cincinnati, Ohio, U.S.

1871 Miller, Hugh, M.D., Physician-Accoucheur to the Glasgow Maternity Hospital; 298, Bath crescent, Bath street, Glasgow.

1876 Millman, Thomas, M.D., Woodstock, Ontario, Canada.

1876 Milson, Richard Henry, M.D., 88, Finchley road, South Hampstead, N.W.

1869 Milward, James, 27, Charles Street, Cardiff.

1869 Minns, Pembroke R. J. B., M.D., Thetford, Norfolk.

1867 Mitchell, Robert Nathal, M.D., 1, Amersham park villas, New Cross, Kent.

1873 Monckton, Marshall, L.F.P.S. Glasg., Calverley parade, Tunbridge Wells.

1868 Moodelly, P. S. Mootoosawmy, M.D., Native Surgeon, Uncovenanted Service, Madras [Manargoody, Tanjore].

1877 Moon, Frederick, M.B., Bexley house, Greenwich.

1873 Moon, Robert Henry, F.R.C.S., Fern Lodge, Lower Norwood.

1869 Moore, Joseph, M.D., Counser villa, Balham, S.W.

1859 Moorhead, John, M.D., Surgeon to the Weymouth Infirmary and Dispensary; Weymouth, Dorset.

1863 Morgan, Edward, 15, Park street, Llanelly, Caermarthenshire.

Elected

1878 Mowat, George, Longland House, Swansea.

1878 Muir, James C. P., L.R.C.P. Ed., 44, Cornwall road, Westbourne park.

1877 Murphy, James, M.D., 3, Borough road terrace, Sunderland.

O.F. Murray, Gustavus Charles P., M.D., Obstetric Physician to the Great Northern Hospital; 66, Great Cumberland place, Hyde park, W. *Council*, 1864-65. *Hon. Sec.* 1866-69. *Vice-Pres.* 1870-72. *Treas.* 1873-77.

1877 Murray, J. Jardine, 99, Montpelier road, Brighton.

O.F. Musgrave, Johnson Thomas, L.R.C.P. Ed., Irlam villa, 39, Finchley road, N.W. *Council*, 1859-60.

1875 Musgrave, Reginald Vernon, House Surgeon, Royal Sea Bathing Infirmary, Margate.

1876 Napier, Alex. Disney Leith, M.B., C.M., Fraserburgh, Aberdeenshire.

1859 Napper, Albert, Broad Oak, Cranleigh, Guildford, Surrey. *Council*, 1866-68.

1863 Nason, John James, M.B. Lond., 11, Bridge street, Stratford-on-Avon.

1859 Nason, Richard Bird, Nuneaton, Warwickshire.

1859 Neal, James, M.D., late Hon. Surgeon to the Lying-in Hospital, Birmingham; Barcelona House, Sandown, Isle of Wight.

1866 Neild, James Edward, M.D., Lecturer on Forensic Medicine, Melbourne University; 166, Collins street east, Melbourne.

1876 Nesbitt, Dawson, M.D., 34, Cambridge place, Hyde Park, W.

1876 Newham, James, 16, Princes street, Cavendish square, W.

1859 Newman, William, M.D., Surgeon to the Stamford and Rutland Infirmary; Barn Hill House, Stamford, Lincolnshire. *Council*, 1873-75. *Vice-Pres.* 1876-77.

1872 Niblett, Francis D., L.R.C.P. Ed., The Grove, Hackney, N.

1878 Nicholls, Frederick, Toronto Cottage, South Croydon.

Elected

1861 Nichols, George W., Augusta House, Rotherhithe, S.E.

1873 Nicholson, Arthur, M.B. Lond., 98, Montpellier road, Brighton.

1876 Nix, Edward James, M.D., 143, Great Portland street, W.

1876 Oakes, Charles, M.B. and C.M., Oak Villa, Russell road, Leamington.

1868 Oates, Parkinson, M.D., 164, Cambridge street, Eccleston square, S.W.

1876 Ogston, Francis, Junr., M.D., 156, Union street, Aberdeen.

O.F. Oldham, Henry, M.D., F.R.C.P., Consulting Obstetric Physician to Guy's Hospital; 4, Cavendish place, Cavendish square, W. *Vice-Pres.* 1859. *Council*, 1860, 1865-66. *Treas.* 1861-62. *Pres.* 1863-64. *Trustee.*

1859 Oldham, James, F.R.C.S., Consulting-Surgeon to the Brighton Lying-in Institution; 53, Norfolk square, Brighton. *Council*, 1866-68.

1878 O'Neill, John, M.D., Maldon, Victoria, Australia.

1869 Ord, George Rice, Streatham hill, Surrey.

1875 Orpen, Arthur Herbert, A.B., L.K.Q.C.P.S., Springfield, Boswells, Chelmsford.

1877 Osterloh, Paul Rudolph, M.D. Leipzic; Dresden.

1877 Ostlere, Robert, M.B., C.M., 28, Stoke Newington road, N.

1863 Oswald, James Waddell Jeffries, L.R.C.P. Ed., 245, Kennington road, S.E.

1878 Owen, Owen Elias, L.R.C.P. Ed., Brynsiencyn, Anglesey.

1875 Owen, William, 201, Bethnal green road, E.

1869 Oxley, Martin G. B., L.K.Q.C.P.I., 80, Rodney street, Liverpool.

1859 Palfrey, James, M.D., Obstetric Physician to, and Lecturer on Midwifery and the Diseases of Women and Children at, the London Hospital; 29, Brook street, Grosvenor square, W.

1877 Palmer, Montagu H. C., London road, Newbury, Berks.

Elected

1877 PARAMORE, RICHARD, 18, Hunter street, Brunswick square, W.C.

1873 PARKER, ROBERT WILLIAM, 8, Old Cavendish street, W.

1867 PARKS, JOHN, The Wylde, Bury, Lancashire.

1873 PARKS, LUTHER, A.M., M.D., Boston, United States. [Agents: Messrs. McCalmont Brothers & Co., Bankers, 15, Philpot lane, E.C.]

1872 PARR, GEORGE, M.D., 18, Upper Phillimore place, Kensington, W.

1876 PARSONS, JOHN HANBURY, M.D., Yorkville, Toronto, Ontario, Canada.

1874 PATERSON, ALEXANDER, M.D., Bahia, Brazil.

1865* PATERSON, JAMES, M.D., Hayburn Bank, Partick, Glasgow.

1875 PAUL, ERNEST WATSON, L.K.Q.C.P.I., Glastonbury and Street, Somerset.

1874 PAYNE, WILLIAM S. HELE, 87, Queen's Road, Peckham, S.E.

1864 PEARSON, DAVID RITCHIE, M.D., 23, Upper Phillimore place, Kensington, W.

1871 PEDLER, GEORGE HENRY, 6, Trevor terrace, Rutland gate, S.W.

O.F. PEIRCE, RICHARD KING, Surgeon to the Notting hill and Shepherd's Bush Dispensary, 94, Addison road, Kensington, W.

1873 PEREZ, DIEGO, M.D., Montevideo, South America [*per* A. K. Mackinnon, Esq., 22, Norfolk terrace, Bayswater, W.

1871 PERRIGO, JAMES, M.D., 917, St. Catherine street, Montreal, Canada. *Hon. Loc. Sec.*

1878 PHILPOT, JOSEPH HENRY, M.D., 26, South Eaton place, S.W.

1871 PHILPS, PHILIP GEORGE, 4, Queen's road, Peckham, S.E.

1876 PICARD, P. KIRKPATRICK, M.D., 59, Abbey road, St. John's Wood, N.W.

1874 PIGG, THOMAS, M.D., Physician to the Manchester Southern Hospital for Women and Children; 75 Piccadilly, Manchester.

Elected

1876 Piggot, Allen, L.R.C.P. Ed., Bourneville Lodge, Beckenham, Kent.

1866 Pilcher, William John, 43, High street, Boston, Lincolnshire.

1864 Playfair, W. S., M.D., F.R.C.P. (President), Physician Accoucheur to H.I. & R.H. the Duchess of Edinburgh; Professor of Obstetric Medicine in King's College, and Obstetric Physician to King's College Hospital; 31, George street, Hanover Square, W. *Council*, 1867. *Hon. Librarian*, 1868-9. *Hon. Sec.* 1870-72. *Vice-Pres.*, 1873-5. *Pres.* 1879.

O.F.* Pollard, William, Surgeon to the Torbay Hospital; Southlands, Torquay, Devon.

1877 Poole, S. Wordsworth, M.D., Dunedin, Sidcup, Kent.

1876 Pope, H. Campbell, M.B. Lond., Broomsgrove Villa, 280, Gold Hawk road, Shepherd's Bush, W.

1864 Potter, John Baptiste, M.D., Obstetric Physician to, and Lecturer on Midwifery and the Diseases of Women at, the Westminster Hospital; 20, George street, Hanover square, W. *Council*, 1872-6. *Hon. Lib.* 1877-8. *Vice-Pres.* 1879.

1859 Pound, George, Odiham, Hants.

1875 Powdrell, John, 75, Euston road, N.W.

1863 Powell, Josiah T., M.D., 347, City road, E.C.

1864 Price, William Nicholson, Lecturer on Midwifery and the Diseases of Women and Children at the Leeds School of Medicine; Mount Pleasant, Leeds. *Council*, 1876-8.

O.F. Priestley, William O., M.D., F.R.C.P., Consulting Obstetric Physician to King's College Hospital; and Consulting Physician-Accoucheur to the St. Marylebone Infirmary; 17, Hertford street, Mayfair, W. *Council*, 1859-61, 1865-66. *Vice-Pres.* 1867-69. *Pres.* 1875-76.

1876 Quirke, Joseph, L.R.C.P. Ed., The Oaklands, Hunter's lane, Handsworth, Birmingham.

O.F. Radford, Thomas, M.D., Consulting Physician to St. Mary's Hospital, Manchester; Moor field, Higher Broughton, Manchester. *Vice-Pres.* 1859.

Elected

1859 Ramsay, John Allen, L.R.C.P. Ed., The Lawn, Great Shelford, Cambridge.

O.F. Randall, John, M.D., Lecturer on Medical Jurisprudence, St. Mary's Hospital Medical School; Medical Officer, St. Marylebone Infirmary; 35, Nottingham place, W. *Council*, 1877.

1861 Rasch, Adolphus A. F., M.D., Physician for Diseases of Women to the German Hospital; Physician to the Training Hospital, Tottenham; 7, South street, Finsbury square, E.C. *Council*, 1871-3.

1878 Rawlings, John Adams, M.R.C.P. Ed., 4, Northampton terrace, Swansea.

1870 Ray, Edward Reynolds, Dulwich.

1860* Rayner, John, M.D., Swaledale House, Quadrant road north, Highbury New Park, N.

1859 Raynes, Henry, Gringley-on-the-hill, Bawtry, Yorkshire.

1877 Read, Arthur Walter, L.R.C.P. Ed., 2, Warwick row, Coventry.

1871 Read, Charles, M.B., 1, St. George's square, Regent's park road, N.W.

1874 Rees, William, Priory House, Queen's Crescent, Haverstock hill, N.W.

1875* Rey, Eugenio, M.D. of Turin, 39, Via Cavour, Turin.

1862 Richards, David, 72, Park road, Brighton, Sussex.

1859 Richards, Samuel, M.D., 36, Bedford square, W.C. *Council*, 1864-66.

1862 Richards, S. Smith C., 36, Bedford square, W.C.

O.F. Richardson, Richard, L.R.C.P. Ed., Bryngwy, Rhayader, Radnorshire.

1872 Richardson, William L., M.D., A.M., Instructor in Obstetrics in Harvard University; Visiting Physician to the Boston Lying-in Hospital; 76, Boylston street, Boston, Massachusetts, U.S.

1872 Rigden, George, Surgeon to the Canterbury Dispensary 60, Burgate street, Canterbury.

Elected

1871 RIGDEN, WALTER, 8, Montpellier square, S.W.

O.F.* ROBERTS, DAVID LLOYD, M.D., Physician to St. Mary's Hospital, Manchester; 23, St. John's street, Deansgate, Manchester. *Council*, 1868-70. *Vice-Pres.* 1871-2. *Hon. Loc. Sec.*

1867 ROBERTS, DAVID W., M.D., 56, Manchester street, Manchester square, W.

1860 ROBERTS, ROBERT PRICE, Shamrock House, Rhyl, Flintshire.

1874 ROBERTSON, WILLIAM BORWICK, M.D., West Dulwich, S.E.

O.F. ROBINSON, THOMAS, M.D., 35, Lamb's Conduit street, W.C.

1876 ROE, JOHN WITHINGTON, M.D., Ellesmere, Salop.

O.F. ROGERS, WILLIAM RICHARD, M.D., Physician to the Samaritan Free Hospital; 56, Berners street, Oxford street, W. *Council*, 1870-72.

1874 ROOTS, WILLIAM HENRY, Canbury House, Kingston-on-Thames.

1860 ROPER, ALFRED GEORGE, 57, North End, Croydon, Surrey. *Council*, 1879. *Hon. Loc. Sec.*

1874 ROPER, ARTHUR, 17, Granville park, Blackheath.

1865 ROPER, GEORGE, M.D., Physician to the Royal Maternity Charity; Physician to the Hospital for Diseases of Children and Women, Waterloo Bridge road; 6, West street, Finsbury circus, E.C. *Council*, 1875-77. *Vice-Pres.* 1879.

1859 ROSE, HENRY COOPER, M.D., High street, Hampstead, N.W. *Council*, 1875-77.

O.F. ROUTH, CHARLES HENRY FELIX, M.D., Physician to the Samaritan Free Hospital for Women and Children; 52, Montagu square, W. *Council*, 1859-61. *Vice-Pres.* 1874-6.

1874 ROWAN, THOMAS, L.R.C.P. Ed., Hon. Physician to the Lying-in Hospital, Melbourne, Victoria.

1870 RUSSELL, LOGAN D. H., M.D., 8, Alfred street, Gt. George street, Liverpool.

Elected

1864 SALTER, JOHN H., D'Arcy House, Tolleshunt D'Arcy, Kelvedon, Essex.

1875 SALZMANN, FREDERICK WILLIAM, 18, Montpellier road, Brighton.

1868* SAMS, JOHN SUTTON, St. Peter's Lodge, Eltham road, Lee, Kent.

1872 SANGSTER, CHARLES, 148, Lambeth road, S.E.

1870 SAUL, WILLIAM, M.D., 4, Charlotte street, Fitzroy square, W.

1863 SAVAGE, HENRY, M.D., Consulting Physician to the Samaritan Hospital for Women, Lower Seymour street, Portman square; 14, Bentinck street, W. *Council*, 1871-2.

1872 SAVAGE, THOMAS, M.D., Surgeon to the Birmingham and Midland Hospital for Women; 12, Old square, Birmingham. *Council*, 1878-79.

1877 SAVORY, CHARLES TOZER, M.D., 1, Douglas road, Canonbury, N.

O.F. SCOTT, JOHN, F.R.C.S., 10, Tavistock square, W.C. *Council*, 1868-70. *Vice-Pres.* 1871-3.

1870 SCOTT, JOHN, M.D., New street, Sandwich.

1876 SCOVIL, FRANCIS S., St. John's, New Brunswick, Canada. [Verulam Club, 54, St. James street, S.W.]

1863 SEQUEIRA, HENRY LITTLE, 1, Jewry street, Aldgate, E.C.

1866 SEQUEIRA, JAMES SCOTT, 34, Leman street, Goodman's fields, E.

1875 SETON, DAVID ELPHINSTONE, M.D., 12, Thurloe place, South Kensington.

1860 SEWELL, CHARLES BRODIE, M.D., 21, Cavendish square W., and 13, Fenchurch street, E.C.

1862 SHARMAN, MALIM, Surgeon to the Birmingham Free Hospital for Sick Children; 18, New Hall street, and Hollington, Bristol road, Birmingham.

Elected

1876 SHARPE, GEORGE METCALFE, Grove House, Hunslet, Leeds.

O.F. SHARPIN, HENRY WILSON, F.R.C.S., Surgeon to the Bedford General Infirmary, Bedford. *Council*, 1871-3.

1869 SHAW, HENRY SISSMORE, 88, Upgate, Louth, Lincolnshire.

1859 SHEEHY, WILLIAM HENRY, L.R.C.P. Ed., 4, Claremont square, Pentonville, N.

1875 SHELDON, EDWIN MASON, Surgeon to Stanley Hospital; 223, Boundary street, Liverpool.

1867 SHEPHERD, FREDERICK, L.R.C.P. Ed., 33, King Henry's road, Primrose hill, N.W.

1859 SHIPTON, WILLIAM PARKER, Consulting Surgeon to the Devonshire Hospital; Buxton, Derbyshire.

1874 SIMPSON, GEORGE ALEX. MALCOLM, M.D., Hampstead lane, Highgate, N.

1874 SINCLAIR, ALEXANDER DOULL, M.D., Visiting Physician to the Boston Lying-in Hospital; 35, Newbury street, Boston, Massachusetts, U.S.

1876 SIRIGNANO, GIOSUE, M.D., 24, Strada Banchi Nuovi, Napoli.

1874 SKINNER, STEPHEN, M.B., Frendale, Clevedon, Somerset.

1876 SLOAN, SAMUEL, M.D., C.M., 4, Newton terrace, Glasgow.

1861 SLOMAN, SAMUEL GEORGE, Farnham, Surrey.

1861 SLYMAN, WILLIAM DANIEL, 26, Caversham road, Kentish Town, N.W.

1859 SMILES, WILLIAM, M.D., Surgeon to the House of Correction, Cold Bath Fields; 44, Bedford square, W.C. *Council*, 1879.

1877 SMITH, ARTHUR LAPTHORN, M.D., 41, Beaver Hall terrace, Montreal, Canada.

1876 SMITH, HENRY BARTON LIDDELL, M.B. and C.M., 29, Charles street, Berkeley square, W.

Elected

1867 Smith, Heywood, M.D., Physician to the Hospital for Women, Soho square, and Physician to the British Lying-in Hospital; 2, Portugal street, Grosvenor square, W. *Council*, 1872-5.

O.F. Smith, Protheroe, M.D., Physician to the Hospital for Women, Soho square; 42, Park street, Grosvenor square, W.

1875 Smith, Richard Thomas, M.D., Assistant-Physician to the Hospital for Women, Soho square; 53, Haverstock hill, N.W.

1875 Smith, Ernest Louis Tyler, M.A., M.B. Cant., Hounslow.

1859 Smith, William Johnson, M.D., Consulting Physician to the Weymouth Infirmary and Dispensary; Greenhill, Weymouth, Dorset. *Council*, 1869-71.

1878 Smyth, Albert Charles Butler, L.R.C.P. Ed., House Surgeon to the Brighton and Hove Lying-in Institution and Hospital for Women and Children; 76, West street, Brighton.

1876 Snegiereff, Woldemar, M.D., Professor of Gynæcology in the University of Moscow [per A. & G. Chludon, 8, Inner Temple, Dale street, Liverpool.]

1876 Snell, Edmund George Carruthers, 131, Green street, Victoria park, E.

1866 Soper, William, Medical Officer, Jews' Hospital, Norwood; 4, Clapham rise [283, Clapham road], S.W.

1869 Spaull, Barnard, F.R.C.S., Essex House, Vale place, Hammersmith, W.

1868 Spaull, Barnard E., 2, Vale place, Hammersmith, W.

1872 Spence, James Beveridge, M.D., Earlswood Asylum, Red Hill, Surrey.

1876 Spencer, Lionel Dixon, M.D., Bengal Army [care of Messrs. Grindlay and Co., 55, Parliament street].

1862 Spry, G. Frederick Hume, M.D., Surgeon-Major 2nd Life Guards, Army and Navy Club, S.W.

Elected

1876 SPURGIN, FREDERICK WILLIAM, L.R.C.P. Ed., 14, Henrietta street, Cavendish square, W.

1876 SPURGIN, HERBERT BRANWHITE, 49, Abington road, Northampton.

1876 SPURRELL, FLAXMAN, L.R.C.P. Ed., Belvedere, Kent.

O.F. SQUIRE, WILLIAM, M.D., M.R.C.P., 6, Orchard street, Portman square, W. *Council*, 1866-68. *Vice-Pres.* 1876-77.

1877 STAINTHORPE, WILLIAM WATERS, M.D., C.M., Bellingham, Northumberland.

1877 STEPHENSON, WILLIAM, M.D., Professor of Midwifery, University of Aberdeen; 261, Union Street, Aberdeen.

1873 STEWART, JAMES, M.D., 2, Skinner street, Whitby, Yorkshire.

1875* STEWART, WILLIAM, L.R.C.P. Ed., Highfield House, Barnsley, Yorkshire.

1876 STEWART, WILLIAM EDWARD, 16, Harley Street, W.

1859 STONE, JOSEPH, M.D., 175, Upper Brook street, Manchester.

O.F. STOWERS, NOWELL, 125, Kennington park road, Kennington, S.E.

1875 STRANGE, FREDERIC WILLIAM, 273, Jarvis street, Toronto, Ontario, Canada.

1866 STRANGE, WILLIAM HEATH, M.D., 2, Belsize avenue, Belsize park, N.W.

1871 STURGES, MONTAGUE J., M.D., Elmstone House, Beckenham, Kent.

1862 SUTTON, FIELD FLOWERS, M.D., Balham hill, Clapham, S.W.

1859 SWAYNE, JOSEPH GRIFFITHS, M.D., Physician-Accoucheur to the Bristol General Hospital; Harewood House, 74, Pembroke road, Clifton, Bristol. *Council*, 1860-61, *Vice-Pres.* 1862-64. *Hon. Loc. Sec.*

1859 SYMONDS, FREDERICK, M.A., F.R.C.S., Surgeon to the Radcliffe Infirmary; 35, Beaumont Street, Oxford. *Council*, 1862-65. *Hon. Loc. Sec.*

Elected

1871 Tait, Lawson, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women; Consulting Surgeon to the West Bromwich Hospital; 7, Great Charles street, Birmingham.

1871 Tanner, John, M.D., F.L.S., Physician for Diseases of Women, to the Farringdon General Dispensary, and Obstetric Physician to the Lying-in Charity, Holborn; Alfred House, Newington Causeway, S.E.

1859 Tapson, Alfred Joseph, M.B. Lond., 36, Gloucester gardens, Westbourne terrace, W. *Council*, 1862-64.

1863 Tapson, Joseph Alfred, Surgeon to the Clapham General Dispensary; 83, High street, Clapham, S.W.

1871 Tayler, Francis F., B.A. Lond., and M.B., Claremont villa, 224, Lewisham road, S.E.

O.F. Tayloe, Edward, South lodge, Clapham common, S.W.

O.F. Taylor, Charles, M.D., Pine house, Camberwell green, S.E. *Council*, 1869-71.

1869 Taylor, John, Earl's Colne, Halstead, Essex.

1871 Taylor, John W., M.D., 34, Queen street, Scarborough.

1878 Taylor, Joseph Ogilvie, Cottage Place, Chelmsford.

1862 Taylor, Thomas, F.R.C.S., Sutton Coldfield, Birmingham. *Council*, 1875-77.

1872 Temple, James Algernon, M.D., Professor of Obstetrics, Trinity College, Physician to Toronto General Hospital, Physician Accoucheur to the Burnside Lying-in-Hospital, Toronto. *Hon. Loc. Sec.*

1862 Thane, George Dancer, M.D., 15, Montague street, Russell square, W.C.

1870 Thompson, John Ashburton, M.D., 207, Caledonian road, N. *Council*, 1877-8.

1867 Thompson, Joseph, 24a, Regent street, Nottingham.

1878 Thomson, David, M.D., 31, Upper George street, Luton, Bedfordshire.

1874 Thomson, William, M.D., Consulting Surgeon, Peterborough Infirmary, Westgate, Peterborough.

Elected

1878 THOMSON, WILLIAM ARNOLD, F.R.C.S.I., Wembly, Sudbury, Middlesex.

1867 THORBURN, JOHN, M.D., Lecturer on Midwifery, Manchester Royal School of Medicine; 333, Brighton place, Oxford street, Manchester. *Council*, 1876-78.

1860 THORNE, GEORGE LEWORTHY, M.D., 1, Park road, Swanage, Dorset.

1862 THORNTON, WILLIAM HENRY, M.D., Bank Lodge, Scarborough.

1867 THORNTON, WILLIAM HENRY, Surgeon to the Royal National Hospital for Scrofula; Berkeley Lodge, Margate.

1874 TICEHURST, AUGUSTUS ROWLAND, Silchester House, Pevensey Road, St. Leonard's-on-Sea.

1873 TICEHURST, CHARLES SAGE, Bedford place, Tunbridge Wells.

1860 TIFFEN, ROBERT, M.D., Wigton, Cumberland.

1866 TILLEY, SAMUEL, The Cedars, Cranford, Middlesex.

O.F. TILT, EDWARD JOHN, M.D., Consulting Physician-Accoucheur to the Farringdon General Dispensary; 27, Seymour street, Portman square, W. *Council*, 1867-68. *Vice-Pres.* 1869-70. *Treas.* 1871-2. *Pres.* 1873-4.

1872 TOLOTSCHINOFF, N., M.D., Kieff, Russia [*per* M. N. Orloff, 4, King street, Grosvenor square, W.].

1869 TOMKINS, CHARLES P., L.K.Q.C.P.I., Beddington park, Croydon.

1870 TOWNE, ALEXANDER, Junr., 364, The Crescent, Kingsland road, N.E.

1873 TRESTRAIL, HENRY ERNEST, F.R.C.S., L.R.C.P. Ed., 6, Trinity terrace, Victoria road, Aldershot.

1872 TUCHMANN, MARO, M.D., 148, Adelaide road, Haverstock hill, N.W.

1865 TURNER, JOHN SIDNEY, Surgeon to the Anerley Dispensary, Stanton House, Anerley road, Upper Norwood, Surrey.

1861 TWEED, JOHN JAMES, Junr., F.R.C.S., 14, Upper Brook street, W.

Elected

1874 Underhill, Thomas, M.D., Summerfield, West Bromwich, Staffordshire.

1860 Varenne, Ezekiel G., Kelvedon, Essex.

1874 Venn, Albert John, M.D., Senior Assistant Physician, Metropolitan Free Hospital; Assistant Physician, Victoria Hospital for Sick Children; 40, Brook street, Grosvenor square, W.

1877 Verco, Joseph Cooke, M.D., Wellington square, North Adelaide, South Australia.

1873 Verley, Reginald Louis, M.R.C.P. Ed., 88, Gower street, W.C.

1864 Wahltuch, Adolphe, M.D., 326, Oxford street, Manchester.

1860 Wales, Thomas Garneys, Downham Market, Norfolk.

1869 Walker, Alfred, M.D., late Physician to the East London Hospital for Sick Children; Fore street, Hertford. *Hon. Loc. Sec.*

1877 Walker, George, L.R.C.P., M.R.C.S., 1, St. George's place, S.W.

1866 Walker, Thomas James, M.D., Surgeon to the General Infirmary, Peterborough; 18, Westgate, Peterborough. *Hon. Loc. Sec. Council*, 1878-9.

1873 Walker, Thomas Osborne, Crick, near Rugby, Northamptonshire.

1870 Wallace, Frederick, District Surgeon to the Royal Maternity Charity; 243, Hackney road, N.E.

1872 Wallace, John, M.D., Assistant-Physician to the Liverpool Lying-in Hospital; 1, Gambier terrace, Liverpool. *Hon. Loc. Sec.*

1872 Waller, Charles Beaumont, 2, West Hill, Sydenham, S.E.

1867 Walters, James Hopkins, Faringdon, Berks.

1873 Walters, John, M.B., Church street, Reigate, Surrey.

O.F. Wane, Daniel, M.D., 20, Grafton street, Bond street, W.

Elected

1859 WARDEN, CHARLES, M.D., Hon. Surgeon to the Birmingham Lying-in Hospital; 39, Temple street, Birmingham.

1874 WARN, REUBEN THOMAS, 37, Highgate road, N.W.

1862 WATKINS, CHARLES STEWART, 16, King William street, Strand, W.C.

1861 WATTS, HENRY, Thatcham, near Newbury, Berks.

1873 WAY, JOHN, M.D., 4, Eaton square, S.W.

1867 WEBB, FRED. E., 113, Maida vale, W.

O.F. WEBB, HENRY SPEAKMAN, Welwyn, Herts.

1872 WEBSTER, THOMAS, Malvern House, Redland, near Bristol.

1876 WEIR, ARCHIBALD, M.D., St. Mungho's, Great Malvern.

1867 WELLER, GEORGE, The Mall, Wanstead, Essex.

1876 WELLS, FRANK, M.D., late Professor of Obstetrics and the Diseases of Women and Children in the Cleveland Medical School; 12, West Cedar street, Boston, Massachusetts.

1874 WELLS, HARRY, M.D., H.B.M. Vice-Consul, Gualeguaychu, Entre Rios, Argentine Confederation.

O.F. WELLS, T. SPENCER, F.R.C.S., Surgeon in Ordinary to H.M.'s Household; Surgeon to the Samaritan Free Hospital for Women and Children; 3, Upper Grosvenor street, W. *Council*, 1859. *Vice-Pres.* 1868-70. *Trustee.*

1859 WESTMACOTT, JOHN GUISE, M.D., Medical Officer to the Paddington Provident Dispensary; 19, St. Mary's terrace, Paddington, W.

1876 WHARTON, HENRY THORNTON, M.A. Oxford, 39, St. George's road, Kilburn, N.W.

1870 WHEATCROFT, SAMUEL HANSOM, L.R.C.P. Ed., Stoke Ferry, Brandon, Norfolk.

1860 WHEELER, DANIEL, Chelmsford, Essex.

1877 WHITE, EDWARD, M.D., Terrace, Summer hill, Birmingham.

1873 WHITE, FREDERICK BROAD, 15, Maida vale, W.

Elected

1860 White, Frederick George, L.R.C.P. Ed., Castle House, Chepstow, Monmouthshire.

O.F. Whitehead, James, M.D., Physician to the Manchester Clinical Hospital; 87, Mosley street, Manchester. *Council*, 1859-61. *Vice-Pres.* 1868-69.

1864 Whitmarsh, William Michael, M.D., M.R.C.P. Ed., Surgeon to the Hounslow Lying-in Charity: Albemarle House, Hounslow, Middlesex.

1877 Wigmore, William, 130, Inverness terrace, Hyde park, W.

1867 Wilbe, Richard Haydock, M.D., York Lodge, 21, Finchley road, St. John's Wood, N.W.

1876 Wilkinson, Joseph Cradock, 2, Bellevue terrace, Crouch End, Hornsey, N.

1871 Wilkinson, William Henry Whiteway, L.R.C.P. Ed., 336, Liverpool road, Islington, N.

1861 Williams, Arthur Wynn, M.D., Physician to the Samaritan Free Hospital; 1, Montagu square, W. *Council* 1871.

1864 Williams, Edward, M.D., Holt street House, Wrexham.

1867 Williams, Henry Llewellyn, M.D., 9, Leonard place, Kensington, W.

1872 Williams, John, M.D., Assistant-Obstetric Physician to University College Hospital; 28, Harley street, Cavendish square, W. *Council*, 1875-76. *Hon. Sec.* 1877-9.

1859 Wilson, James George, M.D., Professor of Midwifery in the Andersonian University, Glasgow; Consulting Physician-Accoucheur to the Glasgow Maternity Hospital; 9, Woodside crescent, Glasgow. *Council*, 1863-64. *Vice-Pres.* 1865-67.

1873 Wilson, John Henry, L.K.Q.C.P. Ireland, Obstetric Physician to the Ladies' Charity and Lying-in Hospital; Kensington Lodge, Kensington, Liverpool.

Elected

1860 Wilson, Robert James, F.R.C.P. Ed., 7, Warrior square, St. Leonard's-on-Sea, Sussex. *Hon. Loc. Sec. Vice-Pres.* 1878-9.

1868 Wilton, John, L.R.C.P. Ed., Chalk Pit House, Sutton, Surrey.

1866 Wiltshire, Alfred, M.D., F.R.C.P., Joint Lecturer on Midwifery at, and Assistant-Obstetric Physician to, St. Mary's Hospital, and Physician for the Diseases of Women to the West London Hospital; 57, Wimpole street, Cavendish square, W. *Council*, 1870. *Hon. Lib.* 1871-3. *Hon. Sec.* 1874-6. *Vice-Pres.* 1877-9.

1877 Wintle, Henry, M.B., 12, Park road villas, Forest hill, S.E.

1876 Wise, Alfred Thomas Tucker, M.D., 82, Sutherland gardens, Maida vale, W.

1872 Wise, William Clunie, M.D., Gothic villa, 241, Burrage road, Plumstead, S.E.

1860 Wiseman, William Wood, Springstone House, Ossett, near Wakefield, Yorkshire.

1872 Wood, Robert Arthur Henry, 118, Mount Pleasant, Liverpool.

O.F. Worship, J. Lucas, Manor House, Riverhead, Sevenoaks, Kent. *Council*, 1875-77.

1876 Worts, Edwin, 6, Trinity street, Colchester.

1871 Yarrow, George Eugene, M.D., 87, Old street, E.C.

1870 Yeates, George, M.D., Grove road, Walthamstow, Essex.

1874 Young, David, M.D., 13, Via dei Fossi, Florence, Italy.

1861 Young, William Butler, 10, Castle street, Reading, Berks.

1869 Yule, John S. C., Castlefield House, 78, Walmsey road, Bury, Lancashire.

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ADVERTISEMENT.

The Society is not as a body responsible for the facts and opinions which are advanced in the following papers and communications read, or for those contained in the abstracts of the discussions which have occurred, at the meetings during the Session.

53, Berners Street,
Oxford Street, W.

OBSTETRICAL SOCIETY

OF

LONDON.

SESSION 1878.

ANNUAL GENERAL MEETING,

JANUARY 2nd, 1878.

Charles West, M.D., F.R.C.P., President, in the Chair.

Present—52 Fellows and 6 visitors.

The ballot for the election of officers and Council for the year 1878 was declared open by the President till 9 o'clock, and Dr. A. Wiltshire and Mr. R. W. Parker were nominated scrutineers.

Books were presented by Dr. Matthews Duncan, Dr. E. M. Jenks, Dr. McClintock, Mr. Lawson Tait, Prof. F. Rizzoli, and Dr. Otto Spiegelberg.

J. R. Miller Lewis, M.D., and Henry de Fonmartin, M.D., were admitted, and James Murphy, M.D. (Sunderland), and Henry Wintle, M.B., were declared admitted Fellows of the Society.

Fred. E. Cockell, jun., M.R.C.S., Thomas Walker Coffin,

M.R.C.S., and Joseph Henry Philpot, M.D., were elected Fellows of the Society.

The following gentlemen were proposed for election :— Henry N. Davies, L.R.C.P. Ed. (Pontypridd), Alex. M. Lang, M.B., Owen E. Owen, L.R.C.P. Ed. (Anglesey), Jos. O. Taylor, L.S.A., and Wm. A. Thomson, F.R.C.S. (Sudbury).

Dr. Roper exhibited an extensively ruptured uterus. The subject of this accident was thirty-six years old, of very intemperate habits. She was at full term, had had seven children without any difficulty, five of these children were born dead, and the other two lived but a few hours. She was attended by a midwife. The head presented, and when the os uteri was fully dilated, and head nearly on the perinæum, as the pains were very feeble, a dose of ergot was given. Symptoms of rupture were observed in an hour and a half afterwards. The head receded and the child escaped into the peritoneal cavity; delivery was effected by podalic version, and bringing the child away per vias naturales. Death took place seven hours after the rupture, and in about ten minutes after delivery. The abdomen alone was examined post-mortem. The laceration extends quite through the edge of the os uteri and upwards as far as between the right round ligament and ligament of the ovary. There was also considerable disruption of the connective tissue about the right broad ligament.

Dr. John Williams said he had seen a case in which a similar rupture had occurred spontaneously, when ergot had not been administered.

Dr. Herman showed the uterus of a woman who died from post-partum hæmorrhage. Her medical attendant, to arrest the hæmorrhage, injected into the uterus a mixture of one part of the saturated solution of perchloride of iron with four of water. This was effective, but only

for a time; and, as a *dernier ressort*, a rag soaked in the saturated solution of perchloride of iron was pushed up into the uterus. The specimen was exhibited as showing well the difference in the effect of the weaker and the saturated solution. The upper part of the uterus, which had been bathed by the 1 to 4 solution, was not, on section, altered to an extent appreciable by the unaided senses. That the iron had come into contact with this part, had been ascertained by chemical tests, as well as from the statement of the medical attendant. The lower part of the uterus, which alone had come into contact with the saturated solution, was black, hard, and corrugated, this change extending through the inner three fourths of its thickness.

Dr. Braxton Hicks said that the case showed the truth of the view generally held with regard to the effect of perchloride of iron. Healthy tissue stands the tincture, but not the strong solution.

Dr. Cleveland inquired what was to be understood by the term "saturated solution." He had used the strong pharmacopœial preparation diluted with three parts of water, and thought it of quite sufficient strength. He would fear that the undiluted solution might act as an escharotic.

Dr. Edis referred to a case of secondary post-partum hæmorrhage, where a solution of iron 1 to 4 had been employed without arresting the hæmorrhage permanently, in which two drachms of the strong Liquor Ferri Perchlor. were injected into the uterus about the tenth day after delivery, and allowed to remain in, a plug of cotton wool being placed against the os uteri, with the effect of at once arresting the flow. The patient made an excellent, though somewhat tardy, recovery. There was no sloughing or other untoward symptom. The interior of the uterus had been carefully explored for any retained portion of placenta, but none could be detected. There was no rupture of the cervix.

Dr. Routh said the case brought up the whole question of injection of perchloride of iron. He had used it twice, and both patients died. When injection into the uterus is made there ought to be a free exit. In the case before the Society a solution of 1 to 4 was used; it proved inefficient, so it was a bad plan to use a weak solution.

Dr. Cory had used the perchloride in several cases with suc-

cess, and without bad result, the strength of the solution being 1 to 4.

Dr. Hayes said the specimen was of great value as it showed that very little of the injection, owing to the manner of injecting, had reached the fundus, from which, doubtless, the hæmorrhage issued. In all cases of post-partum flooding, when perchloride of iron was used, the whole bleeding surface should be copiously bathed by the fluid. This could only with certainty be done by clearing out the clots, carrying up the injecting tube in the hand into the uterus, and directing the injection against every portion of its interior. Another advantage derived from introducing and keeping the hand in the uterus was that the iron was not retained, but readily escaped through the internal os by the side of the wrist. He always used a strong solution of the iron, one composed of equal parts of Liquor Ferri Perchloridi Fort. and iced water. He had had most satisfactory results.

Dr. Barnes said the point of the syringe should be carried to the fundus. This could only be ensured by introducing the hand into the uterus. Clots should be removed before injecting. One to 4 is good strength, but a stronger solution might be used if necessary, but it should not be escharotic. This means of arresting hæmorrhage had stood the test of experience, and had saved many lives. The test for its use is the possibility of exciting reflex action. When this cannot be done use perchloride of iron.

Dr. Heywood Smith showed a uterus, the body of which was the seat of malignant disease.

M. A. W—, æt. 50, single; catamenia æt. 15. Regular for last two years, at times profuse.

October 28th, 1875.—The uterus anteflexed, small; cervix conical, os small.

December 10th.—Complained of pain about umbilicus. Has had menorrhagia at times after excitement, ever since 1870, when she strained herself.

March, 1876.—Tender spot in hypogastrium.

May 24th, 1877.—Uterus felt above pubes, about 2—3 inches, very hard, movable by bimanual examination, uterine sound $3\frac{1}{2}$ inches forwards, with but slight pain.

July 3rd.—Tumour increased, especially towards right; uterus movable, os closed.

Admitted into The Hospital for Women, September; got rapidly thinner. Cervix freely divided, when interior

was found occupied with hard, nodulated mass. Carbolic acid was applied, but patient got rapidly worse and died November 4th.

Dr. Heywood Smith showed, also, parts illustrating extra-uterine fœtation.

M. P—, æt. 42; menstruation commenced 13th year. Admitted into the British Lying-in Hospital May 22nd, 1877.

Vaginal Examination.—Uterus high up, os patent. uterine sound passed 3½ inches: behind cervix uteri a hard mass as of a child's head, and behind that, in the recto-vaginal pouch, a tense tough mass. Fœtal heart 3 inches below and to left of umbilicus; placental thrill in hypogastrium, and to left.

Operation.—25th. At the Hospital for Women.

Incision from above umbilicus to pubes; sac looked greenish yellow. In tapping the cyst the placenta was wounded. The sac was then torn open and a living child extracted, but it only lived forty minutes. The liquor amnii was also of a greenish-yellow colour. The torn portion of placenta was ligatured and cut off. The sac and the rest of the placenta was left. A glass drainage tube was inserted in the wound.

Patient died twenty-two hours after the operation.

Necropsy 4½ hours, post mortem.

The decidua was complete in utero ¼ to ½ inch thick. Right oviduct narrowed and obliterated. Left oviduct nearly closed at uterine end, but at its distal extremity branched out into the placental mass. The placenta seemed to be formed of the hypertrophied fimbriæ of the oviduct. The question arises whether it would not be advisable in a similar case to remove the whole sac.

At 9 o'clock p.m. the Annual Meeting was resumed. The Report of the Treasurer, G. C. P. Murray, M.D. (with the Audited Balance Sheet for the year 1877, and a table containing a summary of the Society's accounts from

its foundation in 1859), was read, and its receipt and adoption moved by Dr. Graily Hewitt, seconded by Dr. Routh, and carried unanimously.

Mr. PRESIDENT and GENTLEMEN, before giving up the trust which you have so kindly permitted me to hold for the last five years, allow me to offer you, as it were, the financial history of the Society from its foundation, nineteen years ago. It will be seen by the table I have drawn up, greatly assisted by Mr. Wheatley, that our numbers have doubled, and this will, in a great measure, account for the falling off in the sale of our 'Transactions.' In 1867 we received £81 14s. 6d., and in 1872 the sale of 'Transactions' brought in £92 0s. 1d.; whereas in 1877 we have only received £51 17s. 6d. But taking the same years, we find that in 1877 we received subscriptions exceeding those of 1867 and 1872, by £119. 14s. These figures, I venture to think, are highly satisfactory. Our expenditure on only four occasions exceeded our receipts; but it is gratifying to find that it has in each instance aided the advancement of the Society, and contributed to the welfare of its Fellows. In 1866, a conversazione was held. In 1868 we furnished the library and otherwise improved the museum. In 1871 we granted £10 10s. to the Simpson memorial fund; and in 1876 we again had to meet the expenses of our second conversazione by the sale of consols to the amount of £250. The balance now in hand, £139 15s. 1d., will, I hope, with the *early receipt of subscriptions,* enable my successor to replace part, if not the whole, of that which we have on *only* one occasion taken from our funded property. I do not wish to be considered narrow-hearted, but only careful; and I think with a little attention we may continue to add to our capital, and thus some day feel—what we should be proud to feel—able to establish a home for ourselves with all the comforts and requirements which this now great Society deserves.

G. C. P. MURRAY.

	1859	1860	1861	1862	1863
RECEIPTS.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1. Subscriptions	336 0 0	399 0 0	428 8 0	457 15 0	474 12
Arrears	...	...	...	...	...
2. Composition Fees	...	10 10 0	21 0 0	21 0 0	...
3. Midwifery Ex. Fees	...	...	...	...	...
4. Sale of Transactions	...	11 0 6	46 18 9	48 9 5	55 17
5. Interest on Consols and Bank Deposit	...	...	1 2 4	8 19 0	15 12
Payment from Fire Office	...	...	...	...	...
	£336 0 0	420 10 6	497 9 1	536 3 5	546 1
EXPENDITURE.					
1. Transactions, Bye-laws, &c.	...	189 4 0	187 6 7	267 2 0	214 15
Catalogue of Instruments, &c.	...	...	...	...	...
2. Library and Museum: Purchase of Books, Rent, Salaries, &c.	...	...	...	...	...
Furnishing Rooms	...	...	...	...	...
3. General Expenses of Meetings, Meeting Room, Stationery, &c.	163 0 6	117 5 0	124 16 8	136 19 1	130 2
4. Conversaziones	...	...	...	...	...
Exhibition of Instruments	...	...	...	...	...
Special Meetings	...	...	...	...	...
Simpson Memorial	...	...	...	...	...
Harvey Tercentenary Memorial	...	...	...	...	...
	£163 0 6	306 9 0	312 3 3	404 1 1	344 18
Balance of Receipts over Expenditure	172 19 6	114 1 6	185 5 10	132 2 4	201 3
Invested in Consols (money)	...	...	...	400 0 0	150 0
Sale of Consols (money)	...	...	...	...	...
Amount of Consol Investment (stock purchased)	...	...	...	...	...

the Income and Expenditure of the Obstetrical Society for the twenty years ending December, 1878.

1864	1865	1866	1867	1868	1869	1870	1871	1872	1873	1874	1875	1876	1877	1878	Totals.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
469 7 0	404 5 0	504 0 0	542 17 0	556 10 0	543 16 0	541 16 0	539 14 0	526 1 0	607 19 0	572 5 0	606 18 0	640 10 0	662 11 0	670 19 0	10,529 15 0
...	...	44 12 0	...	...	...	...	...	...	...	...	...	...	...	...	
...	21 0 0	31 10 0	10 10 0	10 10 0	...	9 9 0	...	21 0 0	31 10 0	10 10 0	...	21 0 0	21 0 0	21 0 0	261 9 0
...	...	...	...	...	...	...	...	6 16 0	11 16 0	4 4 0	2 7 0	3 8 0	4 4 0	5 10 0	88 5 0
40 9 6	69 4 7	51 2 1	81 14 6	62 7 2	74 11 2	55 7 7	64 10 1	92 0 1	74 19 2	76 8 0	72 8 11	71 0 6	52 17 6	58 10 7	1163 10 5
														3 13 3	
20 2 1	25 12 7	29 0 9	29 17 8	32 14 6	33 19 7	35 6 2	36 16 3	40 11 6	40 16 8	41 0 1	41 1 10	44 2 10	36 3 8	36 0 7	
...	...	...	...	...	5 0 0	...	...	...	...	. .	...	...	...	...	554 0 6
529 18 7	520 2 2	660 4 10	664 19 2	662 1 8	657 6 9	641 18 9	641 0 4	686 8 7	767 0 10	704 7 1	722 15 9	780 1 4	776 16 2	795 13 5	12,546 19 11
226 2 1	214 11 5	246 6 9	222 5 11	215 17 3	179 11 10	227 14 0	272 13 3	247 9 9	289 10 1	236 5 3	277 16 1	334 1 9	276 16 5	241 14 0	
...	...	121 11 4	34 16 5	...	...	...	...	...	...	...	...	...	...	...	4723 11 9
...	61 3 5	151 9 6	51 2 0	211 3 4	244 7 2	215 10 11	241 14 1	283 18 4	268 15 5	322 12 1	291 5 0	316 10 2	359 12 7	357 7 5	
...	...	...	...	195 1 2	...	...	...	...	...	...	...	...	...	...	3171 19 7
115 12 4	121 15 1	117 11 3	135 5 4	128 19 0	134 11 4	130 6 2	117 13 10	116 3 9	120 12 8	122 18 6	110 13 0	116 1 3	128 10 2	129 9 8	2518 6 11
...	...	...	...	...	...	...	...	...	...	...	...	240 1 11	...	...	
...	...	211 16 11	...	...	...	...	...	...	...	...	...	...	...	...	
...	...	...	37 5 5	...	...	...	...	...	...	...	...	...	...	...	525 19 3
...	...	...	...	...	...	...	10 10 0	...	...	...	...	...	...	...	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	26 5 0	
341 14 5	397 9 11	748 15 9	480 15 1	751 0 9	558 10 4	573 11 1	642 11 2	647 11 10	678 18 2	682 2 4	679 14 1	1096 15 1	764 19 2	754 16 1	11,239 17 6
188 4 2	122 12 3	(deficiency) 88 10 11	184 4 1	(deficiency) 88 19 1	98 16 5	68 7 8	(deficiency) 1 10 10	38 16 9	88 2 8	22 4 9	43 1 8	(deficiency) 226 13 9	11 17 0	40 17 4	1307 2 5
181 10 0	150 0 0	50 0 0	100 0 0	...	75 0 0	50 0 0	120 0 0	...	...	...	100 0 0	...			
...	...	...	...	...	...	...	...	...	...	...	...	250 0 0	total . . . £1376 10 0		
													deduct . . 250 0 0		1126 10 0
														Balance in hand as per 1878 Balance-sheet	180 12 5
..	...	...	...	...	...	1256 5 4	1381 5 9	...	...	...	1486 11 0	1221 6 0		Amount of Stock, 1879 . .	1221 6 0

BALANCE-SHEET OF THE OBSTETRICAL SOCIETY OF LONDON.

(Abstract of the Receipts and Expenditure for the year ending December 31st, 1877.)

1877. RECEIPTS.	£	s.	d.
Jan.—To balance in hand from balance-sheet of 1876	127	18	1
(1). Subscriptions received during 1877: 631 at £1 1*s*.	662	11	0
2). Composition Fees: 2 (Nos. 22 and 23) at £10 10*s*.	21	0	0
3). Midwifery Examination Fees	4	4	0
(4). Sale of Transactions, &c.	52	17	6
(5). Interest on 3 per cent. consols: £1221 6*s*.—January, 1877 . £18 1 10			
July, 1877 . 18 1 10	36	3	8
Amount of stock, 3 per cent. consols, standing in the names of the Trustees: January, 1878 . £1221 6 0			
	£904	14	3

By EXPENDITURE.	£	s.	d.
(1). Transactions: Printing, Lithography, Paper, and Binding, making Index, List of Additions to Library, and delivery of Volumes, Binding of back Volumes, Printing of Bye-laws, &c.	276	16	5
(2). Library and Museum: (1). Library—Purchase of Books, Bookbinding . £53 4 0			
(2). Museum, including Committees of Investigation . 30 0 0			
(3). Rent, Salary, Petty Expenditure, Furniture, Bookcase, &c. 276 8 7	359	12	7
(3). Expenses of Meetings, &c.: Meeting-room, Expenses of Meetings, Collection of Subscriptions, Stationery, Postages, Banking Expenses, &c.	128	10	2
Balance in hand at Bankers, January 1, 1878	139	15	1
	£904	14	3

Audited and found correct,

PERCY BOULTON,
GEORGE EASTES, } *Auditors.*

The report of the librarian (Dr. Potter) was then read, and was received and adopted on the motion of Dr. Aveling, seconded by Dr. Cleveland.

Report of the Honorary Librarian for 1877.

I have to report the continued usefulness of the Library and the satisfactory condition of its contents. The number of readers during the past year has been quite up to the usual average, and an increased number of books have been taken out for reference.

The number of volumes now in the Library amount to 2250. The additions this year consist of 106 volumes, 36 having been presented, and the rest acquired by purchase.

Some repairs and renewals have been rendered necessary to the furniture. New stair carpet has been laid down, and also drugget to protect parts of the carpet that had become much worn; this has been done as inexpensively as possible. The rooms have also been repapered and painted by the landlord, so that everything is now in excellent order.

The additions to the museum have been large, consisting of the collection of casts presented by Dr. Arthur Farre, who, in addition, has given us a considerable number of Obstetric Instruments.

The question of increased accommodation has been temporarily dealt with by the rental of an additional room on the floor above the Library, and here for the present is deposited the Arthur Farre collection; but it is much to be regretted that want of space still prevents its proper exhibition. This question of additional accommodation, owing to the constant growth of the contents of the Library, is still a very pressing one, and must again before long engage the serious attention of the Council.

JNO. B. POTTER, M.D.

The PRESIDENT announced that the Scrutineers had

examined the lists, and reported that the following gentlemen had been elected as officers and council for the ensuing year.

Honorary President.—Arthur Farre, M.D., F.R.S.

President.—Charles West, M.D.

Vice-Presidents.—James H. Aveling, M.D., James Braithwaite, M.D. (Leeds), Lawrence Trent Cumberbatch, M.D., Arthur W. Edis, M.D., Robert James Wilson, F.R.C.P. Ed. (St. Leonards), Alfred Wiltshire, M.D.

Treasurer.—Henry Gervis, M.D.

Honorary Secretaries.—John Williams, M.D., Clement Godson, M.D.

Honorary Librarian.—John Baptiste Potter, M.D.

Honorary Members of Council.—Henry Oldham, M.D., Robert Barnes, M.D., John Hall Davis, M.D., Graily Hewitt, M.D., John Braxton Hicks, M.D., F.R.S., Edward John Tilt, M.D., William Overend Priestley, M.D., Thos. Spencer Wells, F.R.C.S.

Other Members of Council.—John S. Bartrum, F.R.C.S. (Bath), Percy Boulton, M.D., William Frederick Butt, L.R.C.P., Frederick Henry Daly, M.D., James Matthews Duncan, M.D., John Easton, M.D., George Eastes, M.B., Alfred Lewis Galabin, M.A., M.D., Frederick Heudebourck Gervis, Thomas Crawford Hayes, M.D., George Ernest Herman, M.R.C.P., Wm. Carter Hoffmeister, M.D (Cowes), William Hope, M.D., Wm. Nicholson Price, M.R.C.S. (Leeds), Thomas Savage, M.D. (Birmingham), John Ashburton Thompson, M.D., John Thorburn, M.D. (Manchester), Thomas James Walker, M.D. (Peterborough).

The PRESIDENT then delivered the Annual Address.

ANNUAL ADDRESS.

Gentlemen,—It seems a small undertaking, a very easy, simple matter, to sum up at the end of a year the results of the work of a scientific society, to do honour to the memories of those of our fellow-labourers who have passed from among us, and to encourage one another by their example. And yet when one attempts the task the difficulties in the way of its performance are found to be very great, for there are in it no elements of novelty; and what is there to say which has not been said, and better said, before? Nor only so, but how small after all is the outcome of a year of the most earnest work of any society, and especially of a society like this, whose scope is but a limited one? The history, too, the uneventful history of members of our profession, of lives passed in quiet toil, in the patient quest of knowledge, in self-denying kindness, and in the practice of those homely virtues which alone it falls to most of us to have the opportunity of exercising, is one which we can scarcely bring into the full glare of publicity. We run great risk, in doing it, of distorting the familiar features of those whose memories we fain would cherish; of reflecting them, as some mirrors do—magnified indeed, but misproportioned.

Pardon me if I seem to regard my office as a humbler one than some would represent it. I know full well that it is beyond my skill to discharge it fittingly; and I trust you will not think that I seek to extenuate my own shortcomings by detracting from the interest or the importance of the subjects with which I have to deal.

The first duty that devolves on me, indeed, is one as pleasant as it is easy—to congratulate you on the increase of your numbers, and on the general prosperity of the

Society. The number of our members is 738, as against 700 last year; and though numbers serve to prove only that a Society is popular, there yet is no surer proof of the decay of an association than when members secede from it without cause assigned, or when candidates do not come forward to fill the vacancies which time makes in its ranks. Neither of these signs of decline appears, and, I trust, will never show itself in the Obstetrical Society. Increasing numbers mean increase of income; and it is needless to do more than call your attention to the satisfactory report of your Treasurer. You have heard, too, from your Honorary Librarian that your collection of books (a good and well-chosen one it is) increases steadily; and it has been my pleasing duty to return, on behalf of the Council and of you, gentlemen, our best thanks for fresh gifts of books and casts from our Honorary President, handing over to his juniors the instruments which helped him to his extended usefulness and well-merited fame.

The nineteenth volume of your 'Transactions' will, I trust, be found not inferior in value to its predecessors. For my own part, while I have learnt much from the papers and discussions, and have refreshed my, on many points, somewhat obsolete knowledge, I have not been without a strong feeling that, for the full efficiency of your President, it is needed that his knowledge should be as complete and as recent as that of the youngest member of your body. For the courtesy and kindness with which you have borne with my shortcomings, let me here return you my most heartfelt thanks.

Our meetings have never lacked a good attendance, nor have the discussions been wanting in interest. It has seemed, however, to the Council due both to those gentlemen who are so good as to contribute papers to the Society, as well as to the President and Secretaries, that the law should define more clearly than has hitherto been done, the mode of proceeding when any doubt may arise as to whether the novelty or interest of a communication renders it desirable that it should be brought before the Society.

The object of the changes proposed is to throw the burden of a decision more upon the Council at large, and to remove it, as far as may be, from the President and Secretaries, so that the bare suspicion of personal feeling being mixed up in the question of the acceptance or rejection of a paper shall be impossible. The laws thus modified have been approved by the Council, but it was thought wise, as one or two other rules may require amendment, not to trouble you with piecemeal legislation, but to let the matter stand over for a year.

You will be asked to vote the continuance of the two committees, the one of which has done good service in the collection of casts and drawings of various forms of distorted pelves, and in some instances of pelves themselves; and the other is engaged in the investigation of the important subject of transfusion. The labours of the Transfusion Committee have been impeded by the laws which impose difficulties in the way of experiments on animals for the benefit of man. According to some good people, the dominion which the Book of Genesis says was given to man "over every living thing that moveth upon the earth" was a very limited monarchy indeed. The work of the Temperature Committee was found almost impossible to be carried out except in a lying-in-hospital. It is therefore not proposed to reconstitute that Committee, but to leave the further elucidation of the problems with which it occupied itself to individual research.

It is not often that our medical societies become directly interested in legislative questions. The importance, however, of urging on the Goverment the adoption of some plan for securing that the women who practise as midwives among the poor shall be really competent to the duty which they undertake, has, as you know, engaged much of the time and thoughts of several of your past Presidents; and, to the accomplishment of this object, one of your number, Dr. Aveling, has devoted himself with an unwearied zeal, without which our progress towards this most desirable end would have been very small.

I need not say that the question of the expediency or inexpediency of women engaging in the practice of medicine generally is not at all involved in this action of the Society. Strongly advocated by some, it is as strongly deprecated by others; and it is not for me here to offer an opinion about it one way or the other. But we cannot abstain from taking up the subject, when we find that there is a body of several thousand women to whom the poor of this country have to look for attendance in their confinements, and that the bulk of these women have absolutely no education to fit them for their duties, and have advanced little, if at all, in intelligence during the past hundred years.

A committee was formed to draw up the details of a scheme which should provide for all midwives receiving, as they do in every continental country, a certain minimum of general and special education, and for their passing a very simple examination, which aims at little more than the exclusion of crass ignorance. The doing this should entitle them to be registered; and this registration should alone convey the right to obtain parochial or other public appointments. His Grace the Lord President of the Council expressed himself as favorable to the principles which the scheme embodies. It was afterwards laid before the Medical Council, who approved its object. In order to correct various legal and technical imperfections, it was submitted to Mr. Roscoe, the legal adviser of the College of Physicians; and the scheme, which has been drawn up by the Council with your sanction, will, it is hoped, be found such as can, notwithstanding some criticisms which have been passed upon it, be fairly carried into practice.

I may add that it does not appear to me at all desirable to substitute for the proposed plan of various examining boards, and various registration districts throughout the country, any scheme which would imply the formation of one central board for examination and registration under the control of the Local Goverment Board; nor do I advise its indefinite postponement till either the details of county organisation are improved, or till the much-vexed question

of the general admission of women to practice in the higher departments of medicine has been settled.

The need is an urgent one. If it is to be met at all, it must be in such a way as to entail on the midwives no larger outlay than such as poor women, whose rate of pay in England does not exceed five or six shillings a case, can be expected to meet. A costly education, a stringent examination in the higher branches of the obstetric art, a journey to the metropolis, or to one of three or four large towns, would entirely exceed the measure of their resources. Our object is simply to provide a class of nurses who, to the ordinary knowledge of nursing, superadd that of the attendance on women in natural labour. If the portals of all the medical examining bodies were thrown open to women tomorrow—nay, if in some ladies' parliament men were voted to be disqualified for the practice of medicine and surgery, and none but women were allowed to exercise it, the case of the village midwife would still remain unprovided for and the poor unprotected just as they are now. An imperfect remedy of an admitted evil speedily applied is much to be preferred to a far-distant one, which promises, when realised, to be more complete. I trust that the Society will not allow itself to be turned aside by questions wholly foreign to the subject which we have in view, but that all its members will persevere in the endeavour which concerns us, not as doctors, but simply as citizens striving to supply a great social want,—to secure some guarantee that the poor shall not continue to be exposed to an ignorance and unskilfulness against which the government of every other civilised country has protected them.

Copies of the proposed scheme are, I think, in the hands of most of the Fellows present. The Secretaries will supply copies to any one who asks for them.

And here ends the strict business of the meeting. But it still remains for me to make mention of those who were with us this day last year; or, at least, were members of our Society then, and are not now. How best to do this is a problem which I do not well know how to solve. A

dull catalogue of the day of birth, the day of death, the appointments held, the works written, would yield but little interest or profit—a mere colourless outline, in which it would be hard to recognise the once familiar features. To overlay the dead with praise would answer no better end; and the gilded statue of one so noble, wise, and good, as the late Prince Consort, seems placed as a material warning against so grave an error. I will try to be an honest chronicler, and to say of our lost friends, what they who dwell now in a land where there are no false seemings would, if they revisited us, wish said of themselves.

The first whose loss we have to deplore is one who, in professional standing and in wide reputation, stood pre-eminent. You anticipate the name of Sir William Fergusson, who was one of the original members of this Society, and took a prominent part at the meeting when it was founded. He recognised then the close connection which subsists between surgery and obstetrics, and endorsed his opinion when he accepted the Vice-Presidency of the Society. I do not give up the hope that our friends at the College of Surgeons may lay this to heart, and that I may live to see some obstetrician occupying their Presidential chair. It would honour them as it would honour us, and I am sure would do much good to every branch of medicine and surgery. But medical politics do not concern us here.

What Sir William Fergusson was as a surgeon it is not for me to say. I prefer to take a few sentences from the affectionate notice of him by Sir James Paget, in his address to the Royal Medical and Chirurgical Society in March; and if it is true that *laudari à laudato* is the highest honour which a man can attain to, the surgeon whom Sir James Paget praises may be considered fortunate indeed.

"He was the chief practical surgeon of his time, most eminent in his great practical ability as an operator. His plans for an operation were well designed, his apparatus was always complete and in its place; every appliance was as nearly as may be perfect. But it would be a shame to

Fergusson, and good sense, and good surgery, to say that he owed nearly all his success to his excellence in operating. It gained him his first reputation; the second he owed to the publication of his 'System of Practical Surgery'; and when these drew on him attention, he was found to be good in a wide range of professional knowledge, and very charming in his personal character. His oral teaching was less effective than his writings; they speak clearly and vigourously. In many and important cases he was quick and clear in diagnosis; he saw into them at once, and, without analysis, or weighing of evidence, formed a just opinion."

So far Sir James Paget, whose words I have taken the liberty of condensing, though without in any respect changing them. The last characteristic which he mentions—of quick, clear diagnosis—struck me much on the occasions when I met Sir William Fergusson in consultation. It appeared to me to be the result of vast experience and of a very tenacious memory—as if his head were stored with a collection of precedents, which every year and every day increased. When these failed him he appeared to less advantage; but to say this is only to say that, while he had many gifts he had not all—that the bedside was his proper place, not the lecture room nor the council-chamber. This, however, is but small abatement from merit which in other respects was of the very highest order. Add to his reputation as a surgeon, and the success which he attained among the public, the fact that success did not spoil him; that strife did not sour his temper; that he was gentle, kindly, genial, hospitable; that he so avoided speaking ill of others that it came to pass that no one had an ill word to say of him; that he never made an enemy, or lost a friend; and that when he died, at the age of well-nigh threescore and ten, his death was felt to be premature, his loss a public misfortune and a private sorrow; and this, the simple truth, is of itself a praise beside which all other eulogy seems tame.

I do not know whether it is necessary to add that he was born on March 20, 1808, at Prestonpans, in Scotland;

that he began the study of medicine in 1825, and worked so well that at the age of twenty he was appointed by Dr. Knox, of Edinburgh, Demonstrator of Anatomy to a class of 400 students. In 1828 he became a Member, and in 1831 a Fellow of the College of Surgeons of Edinburgh; and in 1836, after holding various minor appointments, he was elected Surgeon to the Royal Infirmary of that city. In 1840 he came to London to fill the chair of Professor of Surgery at King's College, and the post of Surgeon to the Hospital; and between that time and his death, on February 10, 1877, he had filled with reputation almost every post which a member of the medical profession could hold, and had received every honour to which he could aspire.

Another of our original Fellows died on January 6, 1877—one whose face was well known in these rooms, and whose voice was often heard in our discussions, pointing out a fallacy in argument, or questioning the exact accuracy of a statement; sometimes, perhaps, in eagerness for victory, losing sight of something of more value still.

Dr. Snow Beck, of London, a Member of the Royal College of Physicians, a Fellow of the Royal College of Surgeons, and a Fellow of the Royal Society, was born at Newcastle about the year 1814, became a pupil of Mr. Baird, Senior Surgeon to the Newcastle Infirmary; entered at University College in 1836, and after taking the membership of the College of Surgeons in 1839, went abroad for two years. In 1841 he returned to London, and engaged in general practice. He worked also with much diligence at the Strand Union Workhouse, of which, I believe, he was at one time the medical officer. It was here that accident placed in his hands a gravid uterus, with the dissection of the nerves of which he occupied himself; attention having been already drawn to the subject by the researches of Dr. Robert Lee. It would answer no end to revive, after the lapse of more than thirty years, the details of an acrimonious dispute concerning the correctness of the observations of two gentlemen, of whom the one believed that

the nerve-substance grew largely during pregnancy; the other, with equal good faith, contended that a fallacy lay at the root of that belief, and that the supposed nerves were, to a large extent, mere bands of cellular tissue, which Dr. Lee's imagination converted into nerves. Dr. Beck's observations were believed by the Council of the Royal Society to be the more accurate, and they adjudged to him in 1845 the gold medal of that distinguished body, into the fellowship of which he was afterwards elected.

His subsequent work was chiefly in the direction of practical subjects. I have read his essays on 'Functional Diseases of the Uterus,' published in the 'London Medical Journal' for 1851; his paper on "Inflammation of the Vagina," as well as his essay on "Puerperal Fever" in the 'British Medical Journal' for 1866; and his remarks on different occasions during the discussions in this Society. They all impress me with the conviction that his abilities were above the average; that he observed patiently, and reflected thoughtfully; that he was fitted in many respects to have done more than he ever accomplished.

And why this comparative failure? Why did the great distinction of his life become to him like that fruit fabled to grow on the Dead Sea shore—fair outside, ashes and bitterness within? The answer is not far to seek. The honours which he gained so early were dearly bought at the price paid for them; the strife in which they involved him, the self-assertion which that strife forced upon him, spoilt him for the mental discipline which might have won for him that higher place as a scientific investigator, that warm one as a cherished friend which a man covets none the less because he may haply miss the way that would have led to them. There are things better worth striving for, believe me, than success.

I have not taken the names of our deceased Fellows quite in their order, for the second who died was one of whom I have been unable to gather any particulars—Mr. Frederick Martin Rickard, M.R.C.S. and L.S.A., 1865-66, Assistant-Surgeon 25th Madras Native Infantry, who died at Kurnool

in India on January 8, 1877. He died at the post of duty, far away from home, justifying the motto of the Society to which he belonged, as do many of our Fellows "*Opifer per Orbem.*"

Three more names complete my chronicle. The first, one which these few words of mine may perhaps save from oblivion beyond the limits of his own country town, where his memory is cherished, and where I am glad to know that his son is winning for himself in the same profession the affection with which his father was regarded.

Charles Welchman, M.R.C.S., 1845, practised at Lichfield, where he died from paralysis at the age of fifty-four, on April 14th, 1877. His townsman, Dr. William Browne, has been so good as to give me a few particulars about him, which differ but little from histories with which we are so familiar, that change but the name and it would do for many another one. Educated at Birmingham, which he left with the reputation that no one knew his work better, or was more dexterous as an operator, he settled at Lichfield, married, and had to contend with all the pecuniary difficulties which a rapidly increasing family brought upon him. As time wore on, these difficulties preyed on his spirits and interfered with his success, though they did not lose him the confidence and well-deserved affection of his patients. Of this no better proof can be given than the fact that the officers of the yeomanry regiment to which he belonged subscribed to a testimonial which must have been worth much more to him than the purse of gold with which they presented him. Two years before his death he was for a time laid aside by an attack of paraplegia, from which, however, he almost completely recovered. The enforced pause in his over-busy life served as such pauses often do, a good end; and when a second attack of paralysis carried him off suddenly, it found him walking guided by that "kindly light" which he had first learned to look upon amid the gloom of two years before.

These all may be said to have died prematurely, for they had not attained the full age of man, and might

have been expected to add something more to the common stock of knowledge, to do something more for the benefit of humanity.

I come now, however, to a name which we cannot mention without a more than common sorrow, that of Dr. Bathurst Woodman, who had shown great promise, and more than that—who had accomplished more in his comparatively short life than most do who live much longer. Nor is this his only claim to our remembrance, but he has left behind him the highest testimony to his personal worth—a memory cherished with affectionate regard by those who knew him best and longest, for they who had been his teachers remained through life, and continue still after his death, his attached friends.

To one of them I owe the brief story which is all I can give to keep his memory fresh and green among those who knew him. He was born in the year 1836, at Codenham, near Minstead, one of the loveliest spots in the beautiful New Forest, where his father was a Dissenting minister. He grew up there, making up by earnest reading for a too unsystematic and desultory education; and his mastery of modern languages shows that he turned his opportunities, or his want of them, to the best account. He began his studies at the London Hospital in 1858, and during his pupilage impressed every one by his earnestness and thoroughness in all his work. He joined the College of Surgeons in 1861; after which he held the office, first of Resident Accoucheur, then of House-Surgeon to the Hospital; and after a short experiment in general practice at Torquay, he returned to London to the scene of his studentship. His history, unlike that of most of us, was not one of more or less successful competition for appointments, but of those who had them to bestow competing for his acceptance of them. First, Resident Medical Officer to the London Hospital, then Clinical Assistant for Outpatients; then in 1870, having previously been admitted a Member of the Royal College of Physicians, Assistant-Physician to the Hospital. He had already shown, as

Medical Superintendent of the Cholera Hospital at Limehouse, his power of earnest work, and in the report of it, published in vol. iii of the 'London Hospital Reports,' his ability to turn that work to the best account.

From that time till he died his work was incessant: he contributed papers to various journals, and took besides an active share in the proceedings of this Society. He translated and edited Wunderlich's treatise on Medical Thermometry, he lectured on Physiology, examined at Apothecaries' Hall, took a part in the composition of a paper which was thought worthy of publication in the 'Philosophical Transactions,' and the composition of which required a thorough acquaintance with the details of medical chemistry. Add to this that he was joint author with Dr. Tidy of a work on Medical Jurisprudence, with which, if one can find a fault, it would be that the amount of matter which it contains was beyond the powers of the author, as it is of the reader, to digest, and that all this time he had to perform, and performed well, the duty of Assistant-Physician to the Hospital: and what wonder if body and mind, thus overtaxed, gave way! They gave way when reward, which had seemed so slow in coming, came at last, and the Physicianship to the Hospital and the Fellowship of the College of Physicians had just been conferred upon him. Success came, and reputation, but came too late to save him. Perhaps he had sought for them too eagerly—for the desire for them is apt to cast a strange glamour over the clearest intellect, and cause it to forget what the poet tells us, that

> "Fame is no plant that grows on mortal soil,
> But lives and spreads abroad by those pure eyes,
> And perfect witness of all-judging Jove."

Be this as it may, he was broken down beyond recovery when the reward came, and he was pressed down by sorrows too sacred for me to speak of here. At length he gave way, as the bow breaks when overbent, or as the wearied traveller falls at last beneath the burden which he has long carried, and in bearing which he has found no helper.

"—— with fairest flowers
I'll sweeten thy sad grave,"

or rather, we will all look beyond the grave, to where, in peace at last, he watches us vainly struggling here; and could he make his voice heard, it would, I doubt not, be to urge on all, especially on our younger Fellows, on some of whom life's troubles may possibly now be pressing, the words which for one sad moment he forgot—"When my heart is overwhelmed, lead me to the Rock that is higher than I."

From some graves, as from this, we turn with sorrow; others we contemplate with a feeling of satisfaction—the vessel brought at last "to the desired haven." And thus, happily, we may make mention of the last name upon my list—that of Mr. Robert Dunn, of Norfolk Street, with whose kindly face and friendly greeting most of us were familiar. He belonged to an old Northumberland border family of landed proprietors, and was born at East Brunton, in the parish of Gosforth, in the year 1799. His ancestors were for many generations Lairds of Matfen in the County of Northumberland; but he valued more highly his descent on the maternal side from the family which gave Bishop Nicholas Ridley to the Church of England. I may in passing just observe that a lineal descendant as some would have it he could not be, since the good bishop was never married; and as the Roman Catholic writer, Dr. Lingard, tells us, "his refusal to avail himself of the permission to marry, though he condemned not the marriages of others, added to his reputation." But so is history written.

Mr. Dunn was educated at a private school at Newcastle, conducted by a Mr. Atkinson, who is said to have been a profound mathematician, and a distinguished member of the Literary and Philosophical Society of that town. He served an apprenticeship to Mr. W. Davison, of Alnwick, but did not begin his medical studies in London until the age of twenty-five, when he entered as a pupil of the then united medical schools of Guy's and St. Thomas's Hospitals.

In Mr. Dunn's case at least the much decried apprenticeship system worked well. Exceptional cases indeed prove nothing, but I cannot but connect his robustness of mind in some degree with the fact that he came to the systematic study of his profession with the intellect of a man, not with the mere sharp-wittedness of a lad. One hears that the racing of two-year-olds damages the breed of race-horses: I am not quite sure that the youth who answers questions concerning all things knowable at eighteen, turns out the best medical practioner at eight-and-twenty.

The friendship of Dr. Addison, with whose family he had been on terms of intimacy from boyhood, stood Mr. Dunn in good stead during his student-days and after. He became a Licentiate of the Apothecaries' Society in 1825, and a Member of the College of Surgeons in 1828; and he settled down in practice in Norfolk Street, Strand, where the rest of his life was passed—apparently drawn to that locality by its nearness to the Carey Street Dispensary, to which Dr. Roots and Dr. Addison were then Physicians,—and where he spent for many years all the time that he could spare from a steadily increasing practice, in the endeavour to perfect his knowledge.

Honest work always yields good fruit; so did Mr. Dunn's. He contributed to the first volume of the 'Transactions' of this Society, in 1859, a paper on the "Statistics of Midwifery," deduced from more than 4000 cases occurring in his own practice. The paper is of value and interest; the interest dependent not merely on the facts which it contains (themselves of no mean importance), but as displaying the earnest simplicity of mind which was so marked and so beautiful a feature in his character. But he did not confine his attention to what are commonly called practical subjects. The phenomena of the mind, the disorders of its action, the connexion of those disorders with diseases of the organ through which it acts; the various problems connected with the mental development of different races, and their relation to special conditions of the brain; the psychological characteristics of different races of men; the evidences in favour

of the unity of the human species,—occupied, I can scarcely say his leisure, but rather I should say engaged his less busy hours.

And what, some may ask, was the outcome of it all? what new truth did he bring to light; what old truth did he substantiate? I have not the knowledge critically to estimate the value of each of his essays, and to assign to all their exact worth. But I know that the increment of our knowledge is the total of the small additions made by each honest observer. "*Symbolum aliquod, utcunque exiguum,*" was all that Sydenham ventured to say of his work; what shall we say of ours? Nor only so, but if, as most of us believe, we are placed here in a trial state, to cultivate our intellect, to improve our moral being with reference to a higher, nobler condition than this, just as our first parents were placed in the garden "to dress it and to keep it," when yet out of the ground there grew of its own accord, untilled, uncared for, every tree that was "pleasant to the sight, and good for food," so should our self-improvement be to us as it was to them, the motive and the spur to our own diligence.

It was thus that our friend understood life and life's duties. That in discharging these duties he was honoured and respected and beloved; that he became a member of this society and of that, a Fellow and Vice-President of the Royal Medical and Chirurgical Society, one of our original associates; the President at one time of the Metropolitan Branch of the British Medical Association, what profits it to tell, except for this—that one is always pleased to hear of merit meeting with due recognition. One believes that in his case it met with it all the more because his every effort was directed to deserve, not to claim, reward.

For the last year or two of his life health began to fail him, old age set its mark upon him, and the symptoms of heart disease gave him warning. But he was active and good-doing to the last. He died as he had lived, passing away quietly, unexpectedly, in the night of November 4, 1877, giving no one any trouble, but just going to sleep as

usual, and waking on the morrow to sunnier skies and in a brighter realm.

And now, gentlemen, my task is done, and I have tried to discharge for our deceased friends the office which some kindly occupant of this chair will do another day for you, for me. It were idle or worse to try to moralise on subjects so trite as those which these short life notices suggest—the much to do, the little time to do it in. All that I fain would say is summed up in the motto inscribed beneath the sundial in Old Square, Lincoln's Inn, which, as it tells us of the fleeting hours, adds the reminder, "*Pereunt, et imputantur.*"

At its conclusion it was moved in terms of great approbation by Dr. Matthews Duncan, seconded by Dr. Langmore, and carried with great applause:

"That the best thanks of the Meeting be given to the President, Dr. Charles West, for his admirable address, and that he be requested to allow it to be printed in the next volume of the 'Transactions.'"

The PRESIDENT acknowledged the vote of thanks.

It was then moved by Dr. BARNES, seconded by Dr. TILT, and carried with applause:

"That the Society desires its best thanks to be given to the retiring Treasurer, Dr. G. C. P. Murray, and the retiring Secretary, Dr. Arthur W. Edis, for their zealous and valuable services to the Society during their term of office.

Dr. EDIS returned thanks for Dr. Murray and himself.

It was then moved by Dr. BRAXTON HICKS, seconded by Dr. GALABIN, and carried unanimously:

"That this Meeting also expresses its thanks to the retiring Vice-Presidents and other Members of Council for their valuable services during their year of office.

Acknowledged by Dr. Cleveland.

FEBRUARY 6th, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.

Present—50 Fellows and 6 visitors.

Books were presented by Dr. Beigel, Dr. J. Besson, Dr. Gomer Davies, Dr. H. Fritsch, Dr. A. Leblond, Dr. J. A. McFerran, Dr. Gaillard Thomas, St. Bartholomew's Hospital, the Canada Medical Association, and the International Medical Congress of Philadelphia.

Dr. N. C. Maclean and Dr. J. H. Philpot were admitted Fellows of the Society, and Edward W. Jenks, M.D. (Detroit), was declared admitted.

The following gentlemen were elected Fellows of the Society :—H. N. Davies, L.R.C.P. Ed. (Cymer), Alex. M. Lang, M.B. Owen Elias Owen, L.R.C.P. Ed. (Brynsiencyn), Joseph O. Taylor, L.S.A., and W. A. Thomson, F.R.C.S., (Sudbury).

The following gentlemen were proposed for election : Henry Allen Aldred, M.D., Frederick Stephen Alford, M.R.C.S., Walter Edward Husband, M.R.C.S., and John Archibald Lorimer, M.R.C.S. (Farnham).

Dr. MATTHEWS DUNCAN showed a specimen of general cancerous hypertrophy of the body of the uterus, the

cervix remaining apparently unaffected. The patient, an old woman, died of acute suppurative peritonitis, the cause of which was not discovered. Her case was, during life, supposed to be one of uterine fibroid. She began to suffer only three months before her death, and her complaints were occasional pains in hypogastrium, and occasional loss of blood per vaginam. She had the appearance of health. Three weeks before her death, examination discovered a hard mobile tumour in the brim of the pelvis, about the size of the adult fœtal head. It was rounded and not tender. After death cancerous nodules were found in both lungs and in the liver. The uterus weighed about 4½ lbs.; measured 8 inches in length, and 6½ inches in breadth. Length of uterine cavity 6 inches. Walls of body hypertrophied : fully 1 inch thick. Section generally presents the appearance of a section of a scirrhous mamma. Lining membrane of uterine body is thick and villous; at some parts destroyed. Cancerous degeneration of ovaries and of parts of vagina. In the cervix uteri the microscope discovers cancerous degeneration.

The remarkable point in the case is the enormous diffuse hypertrophy of the uterus, with very little change of shape, the whole body being uniformly affected with cancer of a hard scirrhus-like character; while the cervix is, on superficial examination, unaffected.

Dr. Robert Barnes also showed a specimen of cancer of the body of the uterus, taken from a case which had just died in St. George's Hospital. The patient had suffered for some time from continued hæmorrhage, with intervals of the foul sanious watery discharge characteristic of cancer. Suddenly the signs of perforation declared themselves, and the patient died of peritonitis. At the post mortem the parts were found all matted together, the intestines and bladder being adherent to the uterus. This organ was occupied by a diffluent mass of broken-down cancerous tissue, and was the seat of two perforations, one into the rectum, and one into the peritoneum. The cervix was

unaffected. The cancer was probably of the epithelial kind, and the case illustrated the tendency to necrosis of tissue which was associated with some forms of malignant disease. In cases of this kind perforation was not uncommon, but its most usual seat was the bladder, and after that the rectum. Rupture into the peritoneum was extremely rare; but a case had been brought before the Society some years ago by Dr. Priestley.

The PRESIDENT observed that both of these cases were extremely interesting, and were invested with a special importance by the fact that they called attention to the possibility of carcinomatous disease affecting the body of the uterus, and leaving the cervix intact.

Dr. ROBERT BARNES said that the President and Rokitansky had been the chief authorities to establish the fact that scirrhus of the uterus was extremely rare. He imagined that the specimen which had been shown by Dr. Duncan was an example of what was now commonly termed sarcoma.

Dr. ROUTH said that he thought the chief interest attaching to these cases was as a help to early diagnosis, but neither of the Fellows who had brought these cases forward had dwelt on the early symptoms and history, and he hoped these would be supplied before the cases were published.

Dr. CLEMENT GODSON then showed a specimen of epithelial cancer of the uterus not affecting the cervical portion, but confined almost entirely to the mucous membrane of the cavity, only slightly invading the deeper structures. The history of the case was remarkable. The patient, æt. 52, a well-nourished, healthy looking woman, of a very florid complexion, had come under his care in St. Bartholomew's Hospital in December, 1876. Her chief complaint was of intense pain in the region of the uterus, occurring almost regularly at ten o'clock every morning, and continuing for two, three, or four hours.

The severity of the pain caused her to sit up in bed compressing her abdominal walls, while rocking herself to and fro, and frequently her cries were pitiable. Large doses of quinine, chloride of ammonium, and croton

chloral failed to give any relief, and the pain was only bearable when the patient was fully under the influence of morphia, which was administered hypodermically. On examination the uterus appeared to be perfectly normal to the touch, and the appearance of the cervix uteri was quite healthy. The sound passed in to the extent of $2\frac{1}{2}$ inches into a freely movable uterus, followed by a slight discharge of bright blood. There was occasional intermenstrual discharge of blood. The patient did not improve. She left the hospital in February, and died at home six months afterwards. The condition had remained much the same except that during the last fortnight of her life a slight fœtid watery discharge had been present.

The post-mortem examination disclosed nothing abnormal, except a thickened shaggy condition of the mucous membrane. The microscope showed this clearly to be a cancerous condition, epithelial in character.

Dr. Godson was of opinion that the woman had died worn out with the constant and irremediable pain.

Dr. Rogers briefly related the two following cases as bearing upon the subject under discussion. He was recently called in to a lady supposed to be suffering from ileus. On careful examination of rectum and vagina he found a large irregular tumour of the womb and surrounding parts so pressing on the rectum and sigmoid flexture of the colon as to occlude the bowel, and thus give rise to her sufferings. No complaint was made of any discharges from vagina ; the cervix was apparently healthy. He attempted to overcome the obstruction by passing a tube through the sigmoid flexture of the colon, but finally the distress in the case became so severe that he advised colotomy, which was assented to, and she was admitted into St. George's Hospital. The operation was performed ; she did not long survive. At the post-mortem the body of the uterus and surrounding tissues were infiltrated with cancer causing the obstruction. The cervix was apparently unaffected.

The second case was an aged lady, unmarried ; here irritability of bowels with severe pelvic pains and want of sleep were the only symptoms ; no discharge of blood or matter came from the vagina. Its inlet, which was very rigid and contracted, prevented a satisfactory examination of the internal organs, and careful examination through the sphincter ani was resisted ;

she was not put under chloroform. A guarded prognosis was given. Death came on a few months after. The body of the womb and ovaries were infiltrated and the neck appeared to be quite free.

Dr. Heywood Smith begged to remind the Society that one of the specimens he exhibited at the last meeting was similar to those just shown of cancer of the body only of the uterus. In his case the cervix was not affected, there was not much pain, and there was also perforation at the fundus and an abscess connected with the bowel.

Dr. Murray remarked that the point of interest in the cases related was the absence of pain. He described a case now under his care where there was pain more or less severe. He advocated the use of the sponge tent to clear up the difficulty of diagnosis in these cases, and he had used with benefit the perchloride of iron as a local application.

Dr. Robert Barnes said, with reference to the symptom of pain, that it was more characteristic of cancer in the body of the uterus. In cancer of the cervix it was generally a long-delayed symptom.

Dr. Chambers had brought forward a case of cancer of the fundus uteri at the Birmingham meeting of the British Medical Association in 1873. In that case he had dilated the cervix and scraped out the cavity with Marion Sims' curette, swabbing it out subsequently with tincture of iodine. The patient remained in comparative good health for two years, after that time the disease returned. The os and cervix remained unchanged, but there was a considerable deposit of cancer at the fundus. Great pain and occasional hæmorrhage, more or less severe, were the leading and most urgent symptoms. Dr. Chambers has now a patient under his care who is in all essential points a counterpart of the above case, but much younger. The pain in this case, which nothing but the hypodermic injection of morphia will relieve, and that only for a few hours, is specially characteristic of this form of disease.

Dr. Edis referred to a case he had seen in consultation similar to that brought forward by Dr. M. Duncan. A lady, aged 49, married twenty-three years, sterile, in whom a sharp attack of peritonitis supervened where uterine symptoms had been present for some little time. On examination the cervix uteri was found to be normal, the fundus greatly enlarged and fixed in the pelvis. There was no offensive discharge, but there had been profuse sanguineous discharge every month. The diagnosis apparently lay between fibroid and cancer of the fundus. The fact of the patient having emaciated very much during the last few months, and lost materially in health and strength, together with the history of severe pelvic pain, and the sudden setting up of peritonitis, seemed to point to the case being one of

cancer and not of fibroid. This opinion had been confirmed by a very experienced surgeon, although another eminent physician had expressed an opinion that it was non-malignant.

Dr. Hayes observed that the greatest caution was necessary in the introduction of sponge tents with a view to diagnosis. The tissues might be so thinned and softened as to be easily lacerated by dilatation. He remembered one case in which it had been arranged to introduce a tent, but fatal perforation occurred before this was done.

Dr. Murray, in reply to Dr. Hayes, said the tent must be very long to injure the fundus. It ought to be short and only used to dilate the os and cervix.

Dr. Routh thought Dr. Godson's case might have been benefited, if not cured, by more decided measures. From the post mortem made it was evident the disease was limited and only affected the lining membrane, and he thought if a sea-tangle or sponge tent covered with cotton and dipped in a strong solution of bromine had been used, the disease might have been destroyed and a cure possibly effected. This was the plan usually carried out at the Samaritan Hospital. It did not seem to produce any bad symptoms, and was found frequently very successful.

The President thought it would be very profitable if some Fellow of the Society would make carcinoma of the body of the uterus his special study, in order to provide us with a better guide towards diagnosis and treatment than we at present possessed. In concluding the discussion on this subject he would add that he could not but regret that so few papers on the diseases of children and of women had been brought forward during the past year, for he was very reluctant to see the Society narrowing its scope, and confining its attention merely to obstetrical subjects.

FIBBO-CYSTIC DISEASE OF THE UTERUS WEIGHING FOURTEEN POUNDS.

Dr. Chambers said he had removed the specimen that afternoon; it consisted of the uterus, both ovaries and a large outgrowth projecting from the left side of the body of the uterus: the uterus was eight inches in length, having a circumference of eighteen inches. The outgrowth did not involve either ovary. The uterine cavity

was completely filled with a growth having the appearance of a fibro-cellular tumour closely attached to the uterine wall for five-sixths of its extent. There were a few cysts in the outgrowth, but they were few in number and of small size, containing grumous fluid for the most part. The specimen had a threefold interest: First because of its rarity; second, because of the difficulties which beset the formation of a correct diagnosis; and third, because of the hazards which surrounded the treatment.

History.—Miss B—, æt. 36, a shop woman; enjoyed good general health up to five years ago. About that time her periods, which had always been regular, began to be more profuse; in the course of three years they extended from five days, their normal time, to fourteen, fifteen, and sometimes sixteen days; always attended with great pain and followed by several days of leucorrhœal discharge; this in its turn being succeeded by great prostration. She attended different hospitals and had a good deal of treatment, but was not much benefited. In 1876 she was admitted into the Chelsea Hospital for Women, under Dr. Chambers's care, and was treated for four months by the hypodermic injection of ergotine, beginning with five drops in an equal part of water and gradually increased to thirty drops once daily. The injection was, on all occasions, made into the buttock, the needle being passed at least an inch, generally more; the operation was all but painless. This treatment reduced the periods from fifteen or sixteen days to six, or at most seven days. The dysmenorrhœal pain and the leucorrhœa were proportionately mitigated, but the size of the uterus, which measured over six inches and reached to the floating rib on the right side, was in no way altered by the treatment as far as could be ascertained. Her general health having greatly improved, she was sent into the country. In January, 1878, she was again admitted. Her periods had become much more profuse and painful, and her health had given way very considerably, so that she was quite unfitted for any kind of duty. The uterus

was drawn quite out of the pelvis, the sound passing about seven inches in the old direction. The enlarged uterus, which was very free and moveable when she was last in hospital, had now become more fixed, and was associated with an elastic growth which occupied the left side of the abdomen. The abdominal measurement at the umbilicus was thirty-eight inches, and was increasing rather rapidly. The great difficulty was to define the nature of this secondary growth. Was it a fibro-cystic growth of the uterus? or was it an ovarian tumour? A consultation was held, and opinions differed as to the exact nature of the case. Dr. Barnes being greatly in favour of the ovarian view, while Drs. Chambers and Aveling held to the fibro-cystic view. All, however, were of opinion that under the special circumstances of the case, and as the patient was anxious to have something done if possible, an exploratory incision was not only justifiable, but desirable.

Dr. Chambers was assisted at the operation by Mr. Curling, Dr. Aveling, and Dr. James. Dr. Murray and other visitors were present. The original incision had to be extended to more than twelve inches. There were no adhesions, but from the peculiar formation of the growth there were difficulties in the way of its removal. The pedicle was of extraordinary size—about eight inches from side to side, and proportionately broad, over four inches from before backwards in its thickest part: it was twice transfixed with double ligature and secured in four parts—apparently very secure; but after the tumour had been separated by the knife the stump shrunk considerably; so much was this the case, that the ligatures which, but a few minutes before had been tied so tight, became so loose that the finger could be easily passed under them. The whole stump was now surrounded by a strong ligature carefully secured. The ends were brought out at the bottom of the wound. The blood loss during the operation was remarkably small. If the case had been intra-uterine only, the operation would have been very easy indeed, and as far as could be judged almost bloodless.

Dr. Galabin and Dr. Herman were appointed to examine the tumour and report upon it to the Society.

Dr. Roper showed a specimen of small intestine taken from an infant. The case occurred in the practice of Mr. William Toulmin, of Upper Clapton. Some days after birth the tissues round the umbilicus became inflamed. The funis did not separate till the fifteenth day, and with it came away a slough of the abdominal integument the size of a shilling, leaving a deep ulcer. This was dressed with carbolic paste, covered by a pad of linen secured by strapping. On the twenty-first day a portion of intestine two and a half inches long protruded through the umbilical opening. At the same time fæces passed from an opening in the bowel. The external protrusion was covered with mucous membrane. The case was, therefore, one where after an artificial anus had been formed the intestine became everted to the extent described above, and thus protruded through the umbilical opening made by ulceration.

REPORT OF THE UNIVERSITY LYING-IN HOSPITAL, MONTREAL, FROM OCTOBER 1st, 1867, TO OCTOBER 1st, 1875.

By D. C. McCallum, M.D., M.R.C.S.L.,

PROFESSOR OF MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN, M'GILL UNIVERSITY, AND PHYSICIAN-ACCOUCHEUR TO THE HOSPITAL.

The University Lying-in Hospital is a small building, in which, on an average, 120 women are confined yearly. It has but two wards for women who have been confined, each containing four beds. There is also a separate room

for private patients. The class of patients admitted into this institution is much the same as is generally found to seek the benefits of maternity hospitals in other parts of the world. It comprises poor married women, some of whom are reduced greatly in strength by improper and insufficient nourishment, whilst it is not uncommon to meet with others whose constitutions are suffering from excessive indulgence in spirituous liquors; unmarried women who have led irregular lives, and young girls who have been the victims of the seducer.

During the eight years from October 1st, 1867, to October 1st, 1875, there were 995 women delivered in the Hospital. Of these 987 made good recoveries, and 8 died, the mortality being in the proportion of 1 in 124½ cases. Seven of the deaths were from puerperal fever, which invaded the hospital in an epidemic form in the years 1871 and 1872. The first outbreak of this dangerous complaint of parturient women occurred in the month of February, 1871, and of 5 patients seized 3 died. The disease had prevailed in the city during the winter of 1870 and 1871, and had proved fatal in numerous instances, and apprehensions were entertained that it would eventually make its appearance in the hospital. The first case occurred in a poor, enfeebled and, according to her own statement, half-starved woman, who was admitted in a state of labour from the suburbs of the city. Three hours after her admission she was delivered, and five hours subsequently the disease made its appearance being ushered in by the most violent symptoms. Within two days four other patients were attacked, two of whom had been delivered before, and two subsequently to her admission. To prevent the further spread of the disease all the patients not yet confined were dismissed, and the institution closed for the period of a month. It was then thoroughly cleansed and disinfected, and no other case occurred until the month of April, 1872. As in the previous year puerperal fever was rife in the city many months before it broke out in the hospital, so that in the two instances in which it

has during these eight years appeared in an epidemic form in this institution it has been in both imported from without; in neither did it *originate* in the hospital. In the latter epidemic there were 8 women attacked of whom 4 died. The limited amount of disposable space in the present building of the institution rendering it altogether impossible to isolate the sick from those recently confined; it was again closed to patients for a period of six weeks. Since its reopening in June, 1872, there has been no case of puerperal fever. The eighth death occurred in a woman who, when admitted, was in an advanced stage of chronic Bright's disease. She was generally anasarcous, the labia being enormously swollen. The urine was loaded with albumen, and contained numerous granular casts. She was safely delivered of twins, both living; but nearly lost her life from post-partum hæmorrhage. She died on the fourth day after labour with symptoms of uræmic coma.

Of 998 children born, 959 presented the vertex; 11 the breech, 7 the feet; 1 the knee; 2 the shoulders; 2 the face, and 3 the funis. There were 3 twin births, and 3 abortions. There were 948 children born alive—483 males and 465 females; the still-births were 47—35 males and 12 females. The proportion of still-births to living children being 1 to 20. The average length of the children was—males 20 inches—females 19½ inches. The average weight—males 7 lb. 13 oz—females 7 lb. 11 oz. 105 males and 61 females weighed 9 lbs. and upwards. The heaviest male child weighed 11 lb. 12 oz.; the heaviest female 11 lb. 6 oz. The average duration of labour in 992 cases was eight hours forty-five minutes. The average period at which the membranes ruptured before delivery was three and a half hours. The average weight of the placenta was 1 lb. 7 oz., and the average length of the cord was 23 inches. There were two placentæ born with single children, weighing each over 3 lbs. The larger weighed 3 lb. 2 oz., and belonged to a child weighing 9 lb. 4 oz.; the smaller weighed 3 lbs.

1 oz., the child weighing 9 lb. 8 oz. There was also a single placenta accompanying a twin birth which weighed 4 lb. 4 oz. The longest cord measured 48 inches, the shortest 10 inches.

Instrumental interference to complete the delivery was required in 20 cases of labour. In 19 the forceps was used, and in 1 the perforator. The frequency with which the forceps was applied was once in 52⅓ cases. Thirteen primiparæ, and the difficulty in these was attributed to three causes operating either singly or in combination, namely, rigidity of soft parts, occipito-posterior positions of the head, and the funnel-shaped pelvis. The rarity of deformity and disproportion of the pelvis from disease is remarkable in Canada, and is no doubt due to the circumstance that in this country females of tender years are not obliged to do bodily labour under defective hygienic conditions which would have a tendency to interfere with the proper nutrition of their system, retard their development, and cause deformity of the pelvis. Of late years, however, cotton, tobacco, and india-rubber factories have been established in this city giving employment to numerous young girls, and it remains to be seen if in the future we may not meet with obstructed labour from distorted pelvis more frequently than we do at present. The unhealthy anæmic appearance of many of the females employed in these factories, warrant us in advancing the opinion that after the lapse of some years a proportion of those who enter on the work at a tender age may have their nutrition seriously impaired, the bones softened or diseased, and their pelves deformed.

In the 6 remaining cases the forceps was applied *thrice* to complete the delivery in labour complicated with convulsions; *once* in a case of twins to extract the first child, the second being born by the natural efforts; *once* in consequence of symptoms of exhaustion appearing in a protracted labour with the eighth child, and *once* in narrowing of the conjugate diameter of the brim with prolapse of the funis. The last was the only instance in

which the forceps was applied to the head above the brim; in all the others the head had descended into the cavity, or had been arrested near the outlet. In the 19 forceps operations all the mothers recovered, and 16 of the 20 children were saved. The forceps used were Rigby's and Simpson's long forceps, both of which have the pelvic curve. The long double curved forceps, of which there are numerous modifications, being equally applicable whether the head of the child be above the brim, within the cavity, or near the outlet, no other model is employed in this hospital.

The perforator was used *once* to diminish the size of a hydrocephalic head. There were several points of practical interest in this case. A strong robust young woman was admitted into the hospital in labour with her second child. On examination the shoulder was found presenting at the brim; and the funis, much swollen and discoloured, protruded some distance from the vulva. She stated that labour had commenced about eight o'clock in the morning; that "the waters had escaped" about ten o'clock, and that the pains had been very powerful throughout the day. It was at this time eight o'clock in the evening, so that *ten hours* had elapsed since the rupture of the membranes. The greatest difficulty was experienced in turning the child in consequence of its firm impaction in the brim, and the uterus being strongly contracted upon it. The patient being placed fully under the influence of chloroform, we succeeded, after cautious and repeated efforts, made during the intervals of the pains, in introducing the right hand into the womb. A foot was readily seized and brought down below the brim. The child, however, was so impacted in the brim, it was impossible to bring the leg down. The left hand was then introduced, as the right was altogether useless from fatigue and the effects of pressure, and the second foot also seized and brought down into the upper part of the vagina. The two feet of the child were then secured, but it was found impossible by any amount of traction that could be exerted under

the circumstances to bring down the limbs and cause the body to revolve in the uterus. A loop of strong tape was then carried over the foot to the leg of the child and securely fastened. By drawing on this with one hand and at the same time pressing the shoulder firmly upward with the other hand introduced into the vagina, the shoulder receded from the brim, the inferior extremities came down and version was accomplished. As the patient's first labour had been perfectly natural and unattended by the slightest difficulty, and as the action of the uterus continued strong and vigorous, no further trouble was apprehended. The head of the child, however, not being expelled, notwithstanding the presence of strong uterine action and the aid given to bring it down, a careful examination was made. The base of the cranium was found firmly wedged in the brim; and the womb, as felt through the abdominal walls, was larger and firmer than usual and quite globular in outline. We now decided that we had a head enlarged by hydrocephalus to deal with. We then perforated the skull behind the ear, a gush of water followed, and the collapsed head was instantly expelled. The patient subsequently had no unfavorable symptom, and indeed felt so well that she insisted on leaving the hospital on the seventh day after delivery.

Version of the child was performed in two instances of shoulder presentation. Both were complicated with prolapsus of the funis. The mothers recovered, but the children were killed by pressure on the cord. In the case quoted above, the cord had been prolapsed for ten hours, and was swollen and pulseless when the patient entered the hospital. In the other, a primipara, the membranes ruptured before the matron had examined her, and the cord came down with the gush of the waters. Fully an hour had elapsed before we saw her, and by that time all pulsation had ceased in the cord.

Hæmorrhage occurred after delivery in six cases, or in the proportion of 1 in 166. All the mothers were saved.

The treatment consisted in strong grasping pressure on the fundus uteri; the sudden application of cold to the hypogastrium and sacrum, the introduction of pieces of ice into the vagina, and in two cases the introduction of the hand into the uterus. Ergot of rye was also given when the patient was not much depressed. The hypodermic injection of ergotine has not been tried, as we have not had a labour complicated with hæmorrhage since this mode of administering this oxytocic has been introduced into practice. Neither have we considered it necessary to employ astringent injections into the cavity of the womb. The immunity of labours in this hospital from the accident of post-partum hæmorrhage is no doubt partly due to the care with which the uterus is attended to during the expulsion of the body and limbs of the child, and the subsequent separation of the placenta. The rule laid down for the attending student is:—to support the fundus during the contractions which expel the body of the child, to carefully avoid making any attempt to extract the limbs if they should not be expelled at the same time as the body, to make the nurse keep up the pressure on the fundus while he attends to the separation and removal of the child; to relieve the nurse after he has done so, and wait patiently until the uterus has resumed its action; to make firm pressure when he feels the womb contract strongly, and if the placenta be not then expelled, to use no force but wait for another contraction and assist in the same way, continuing this until the afterbirth comes away; and lastly, *not to touch the cord* unless from the circumstances of the case he has reason to suspect morbid adhesion of the placenta, in which event the physician accoucheur is to be sent for. But this immunity is also greatly to be attributed to the care with which the *adherent membranes* are treated. It is well known that the decidua reflexa is frequently firmly attached to the decidua vera at the lower part of the uterus, and the effect of this in rendering labour tedious by prolonging the first stage was pointed out by Dr. Inglis, who recom-

mended, in cases of lingering labour in which the "bag of the waters" was not formed in consequence of this adhesion, the separation of the membranes from the uterus with the finger or with "Hamilton's bolt;" an excellent recommendation, which we have often successfully adopted in practice. It is well known, also, that the membranes are frequently prevented from coming away with the after-birth, and that there is a risk of a portion being torn off and left in the uterus, and when so retained being likely to give rise to severe post-partum hæmorrhage. Authors describe this retention as the result of the membranes being "caught" and held firmly by the contracted uterus. When the membranes are very thick and bulky, they may certainly be closed upon and held by the rapidly contracting womb; but, in our opinion, this is far from being generally the cause of retention of the membranes. The principal cause is the adhesion of the membranes to the lower part of the womb; and if great care be not taken to separate the adhesion with the fingers, a portion is likely to be left behind, and thus be the cause among other evils of hæmorrhage. From the fact, moreover, of these adherent membranes being generally unusually thin and attenuated, there is great danger of their being torn by slight traction made on them.

Retention from adhesion is easily distinguished from that caused by contraction of the womb. When the placenta is turned several times in the left hand held on a level with the vulva the membranes are twisted into a cord-like form. If, now, the finger of the right hand be introduced into the vagina and the membrane examined, it will be found that in cases of adhesion they have become twisted nearly as high up as the os uteri, but at this point they spread out towards the interior of the womb and offer an obstruction to the finger; whereas, when merely closed upon and held by the womb the twisted membranes gradually taper to a point, and the finger can be readily carried around them. The rule in this hospital is to make no traction whatever on the membranes when they

are not expelled from the vagina with the placenta, but to twist them, and then ascertain if they be adherent. If found to be attached to the uterus they are to be carefully separated by the finger and extracted. They are then to be examined to ascertain if they have been entirely removed.

There were seven cases complicated with *convulsions*. In all the mothers recovered. In five the children were born living, and in two the children were stillborn. The urine was examined in each case and, with one exception, was found albuminous.

The first case occurred November 23rd, 1869, in a strong robust young girl, aged nineteen, in labour with her first child. She was seized with convulsions just at the termination of the first stage. The paroxysms were very severe, the face becoming greatly congested and remaining more or less so during the intervals. Twenty-five ounces of blood were drawn from the arm with marked effect. The fits became less frequent, and there was not so much congestion of the face and head. Chloroform was administered during the paroxysm, and 30 grains of the bromide of potassium given every second hour. A castor oil and turpentine enema was also given, and ice applied to the head. The labour not progressing very rapidly and the head of the child having come down into the pelvis, the forceps were applied and delivery completed. The child, a male, was dead and weighed 8 lb. 12 oz. The labour lasted nine hours. She remained in a semi-conscious condition, the convulsions recurring at longer and longer intervals until the evening of the next day, when they ceased, and she made a good recovery. The bromide of potassium was continued after labour in the same dose, 30 grains every fourth hour.

The second, a primipara, aged twenty-eight, was seventeen hours in labour, and gave birth to a dead child, a male, weighing 8 lb. 13 oz. She was apparently doing well, but twenty-four hours after labour was seized with convulsions. Her urine was found to contain a notable

quantity of albumen. She was placed on large doses of the bromide of potassium; chloroform was administered, and a terebinthinate enema given.

The third was a delicate young girl, aged seventeen, of a highly nervous organisation, in labour with her first child. She was very irritable and intolerant of her pains. The labour lasted twenty-six hours, and she gave birth to a female child weighing 7 lb. 4 oz. The first stage was very tedious, occupying twenty-four and a half hours. The first fit of convulsions came on at 4 p.m. at which time the os uteri was not more than half dilated. This paroxysm had a remarkable effect on the progress of the labour. The os was fully dilated at 5 p.m. when a second convulsive attack occurred, and at 7 p.m. she was delivered by the natural efforts. The child was living. An examination of the urine proved it to be free from albumen. Altogether the patient had five convulsive seizures, three before and two after labour. Treatment consisted in the administration of the hydrate of chloral and the bromide of potassium, with beef tea and wine. This case occurred February 15th, 1874.

The fourth, aged nineteen, a primipara had a tedious labour in consequence of premature rupture of the membranes with occipito-posterior presentation of the head. After eleven hours of suffering the os uteri was not more than two thirds dilated. She then became very restless and impatient, and suddenly had a fit of convulsions. We did not see her until two hours after, up to which time she had had three paroxysms. She was immediately placed under the influence of chloroform, and, on examination, the head of the child being found in the cavity of the pelvis and the os fully dilated, the forceps were applied and the delivery completed. The child, a male, weighed 9 lb. 8 oz., and was born alive. The convulsions continued at intervals for forty-eight hours after delivery, during which time she took 200 grains of the hydrate of chloral and 8 drachms of the bromide of potassium. Calomel also was given followed by a black draught, and

ice applied to the head. The motions were very copious, dark coloured, and highly offensive.

The fifth, aged thirty-two, was six and a half hours in labour with her second child, a male, weighing 7 lb. 1 oz. She had œdema of the extremities and her urine was highly albuminous. When the os was fully dilated she was seized with eclampsia. The forceps were applied, and the usual treatment adopted. She recovered without a bad symptom.

The sixth, aged twenty-six, was safely delivered after a labour of nine and a half hours duration of a female child weighing 10 lb. 6 oz. Twenty-four hours after delivery she complained of severe frontal headache with nausea; and the urine being examined was found to contain about 10 per cent. of albumen. She had a slight convulsion which was followed by two others at intervals of ten minutes. She had during eighteen hours sixteen convulsions. Hydrate of chloral was injected hypodermically by Dr. Roddick who was called upon in our absence from the city. It was administered in this way in consequence of the difficulty that was experienced to get the patient to swallow anything. Altogether she received hypodermically 1½ drachms of hydrate of chloral in ten injections. A turpentine-and-soap enema brought away a large quantity of very offensive fæces. A hard swelling about the size of a small pigeon's egg formed at the site of each injection. Over one of these a superficial slough formed about the size of a sixpence, leaving after separation an ulcer that healed rapidly. All the others were gradually absorbed and entirely disappeared.

The seventh was a strong healthy girl, a primipara, aged nineteen, who gave birth to a living female child weighing 8 lb. 1 oz., after a labour of sixteen hours' duration. Two and a half hours after delivery she had a severe convulsion which was followed by two others within the space of half an hour. Twenty-five ounces of blood were drawn from the arm; this arrested the convulsions, and she slept tranquilly for three hours. She then had a

fourth convulsion. Bromide of potassium and hydrate of chloral were now prescribed, and ice applied to the head. A free evacuation from the bowels was obtained by a turpentine and castor oil enema. The paroxysms continued to recur at short intervals until the afternoon of the next day when they ceased. She remained, however, for three days in a semi-conscious state, very restless, with an accelerated pulse, a dry, hot skin, and great thirst. Perfect quiet, a darkened room, liquid nourishment, and the free administration of the Liquor Ammoniæ Acetatis relieved these symptoms, and on the fifth day she was perfectly conscious and made a rapid and satisfactory recovery. She had altogether twenty-one convulsions within twenty-two hours.

From this record it will be perceived that *venesection* was had recourse to only twice in the treatment of seven cases of convulsions; but we may state that this circumstance was not due to any want of faith in the efficacy of this remedy in puerperal eclampsia, but simply to the fact that the class of patients admitted into the hospital will not, as a rule, bear depletion, and the same, we believe, may be said generally of women living in cities. In a similar case to those in which we employed it, that is in a case of puerperal convulsions occurring in a strong robust young woman, accompanied by great congestion of the head and face, the patient being comatose in the intervals, we would not hesitate to draw blood from the arm. By so doing we believe that one would place her in a more favorable condition to be benefited by the other remedies employed to control the convulsive paroxysm.

In three cases labour was followed by *puerperal insanity*. The first was an unmarried female, a primipara, aged thirty-three, who was admitted as a private patient. She was 5 feet 9 inches in height, thin, and of sallow complexion. She had for years been troubled with a tumour of the uterus for which she had consulted various physicians, who agreed in opinion that it was fibroid in character. It occupied the right side of the fundus and formed a

large, rounded, and hard projection from the surface of the womb, with which it was connected by an extended base. She had been the subject of metrorrhagia, and on two occasions her life was despaired of in consequence of the enormous quantity of blood lost. To allay the pain from which she suffered she had been allowed to take opium freely, and she had become an habitual opium eater. During the two months she was in the hospital before the date of labour, she had in a measure conquered the craving desire for opium. On the 17th August, 1870, she was delivered, after a severe labour of thirteen and a half hours' duration, of a living male child weighing 7½ lbs. The breech presented. A dose of ergot of rye was given just before the breech was born, and followed by another after the expulsion of the child. Severe hæmorrhage occurred before the expulsion of the placenta, but it was controlled by the introduction of the hand into the uterus, the removal of the placenta, and the subsequent application of pressure to the fundus of the womb with the introduction of ice into the vagina. On the third day after labour she had an attack of acute mania. She was very violent and abusive, and four students were required to restrain her movements and to keep her in bed. Large doses of the bromide of potassium in combination with opium were given, and this treatment had the effect of quieting her restlessness somewhat, although she remained as talkative and as abusive as before. She required constant watching as she was disposed to inflict injury on others. Once when left a moment to herself she leaped from the bed, rushed around the room, and when the nurse, with the student in attendance, came into the room to secure her, she struck the nurse a violent blow on the chest that felled her to the ground. Hydrate of chloral, which shortly before had been introduced into practice, was tried on the fourth day. The first dose of 30 grains procured about half an hour's sleep. She obstinately refused to take a second dose. The bromide of potassium was continued with nourishing diet, and half a drachm

of the tincture of opium given at bedtime. On the ninth day we made another trial of the hydrate of chloral, which she now took willingly. It had the effect of producing a sound sleep of several hours' duration, from which she awoke more collected and natural than she had been. From this time her improvement was rapid. On the twelfth day her friends arrived from the United States, and insisted on taking her home with them, although warned of the risk of removing her so soon. When she left, her mind was quite restored, and she conversed quietly and sensibly. Her pulse was 92 and her temperature 99° Fahr.

The second was a young girl, aged nineteen, who had been seduced, and who exhibited great distress of mind concerning her condition. Her labour was perfectly natural. Five days after she had an attack of mania. She improved under treatment and became more quiet and manageable; but after the lapse of two months the mental aberration continuing she was sent into the Provincial Lunatic Asylum, at Beaufort. In this instance there was a family history of insanity, her father having died in a lunatic asylum.

The third was a large, exceedingly stout girl, aged twenty-one, a primipara. Her labour was natural, and she progressed favorably until the sixth day after delivery. On that day she received a severe mental shock from accidentally seeing a girl in the hospital who worked in the same millinery establishment, and a few hours after became furiously maniacal. Her language was filthy and abusive, and she had strong homicidal tendencies. For seven days she had to be watched constantly by relays of two students, as one would be unable to control her during her fits of maniacal excitement. On one occasion while the matron was leaning over her to arrange the bedclothes she suddenly seized her by the throat, and it was with great difficulty the matron was rescued from strangulation. In this case the hydrate of chloral given at first in 20 grain doses every fourth hour, the interval being

gradually increased as the remedy produced its hypnotic effects and the patient improved, was of decided benefit. In three weeks she was sufficiently restored to be able to leave for home, and she had no return of the mental disturbance. In the treatment also a free action of the bowels was maintained by warm purgatives, and she was kept on a highly nourishing diet.

Among the curious things that were met with in the practice of the hospital during these eight years may be mentioned the following:—One child with a supernumerary finger in each hand; one with the two lower incisor teeth at birth; a placenta succenturiata; and a blighted fœtus, with a healthy well-formed child. In the last the fœtus was perfectly flattened by pressure. The outlines of the head, face, and extremities were very distinct, and the ear and umbilicus distinguishable. It measured six inches. The living healthy child weighed 7½ lbs.

The youngest mother confined in the hospital was thirteen years old. She was a private patient, and when admitted was in short dresses. Although she was short in stature her hips were wide, and her chest well developed. Some days before labour set in an examination of her pelvis was made with Dr. Lumley Earle's pelvimeter. The bulbed extremities could be separated at the brim to the extent of 3½ inches without causing her too much pain, and we therefore concluded that no obstruction would be offered to the passage of the head from narrowing of the conjugate. By digital examination the pelvis appeared to be sufficiently roomy in other directions. Her labour was natural, of ten hours' duration, and she gave birth to a male child weighing 7 lb. 1 oz. She was confined on the 13th September, 1869, and her fourteenth birthday was in the following month of December.

Dr. Godson called attention to the average weight of the children recorded in the above paper. That of the males was 7 lb. 13 oz., of the females 7 lb. 11 oz. He had recently weighed a number of children delivered at the City of London Lying-in

Hospital, and found the weight of the males averaged 6 lb. 13 oz. and of the females 6 lb. 10 oz. ; that was in each case a pound less than the figures given by Dr. MacCallum.

Dr. Murray said that in the cases which he had noticed where a small portion of membrane had been retained some days and then expelled, he had not seen the hæmorrhage described by the author of the paper. The membranes *not* being attached to the placental site, it was he thought difficult to understand how bleeding could result from their retention.

Dr. Edis called attention to the number of still births, 47 in the 995 cases, or about 1 to 20. It is true the average weight of the children was about that usually found in this country, but when we were further told that forceps were only resorted to in 19 instances, or about once in every 52 cases, the explanation appeared evident. It was a question whether the percentage of still birth might not be materially diminished by a timely application of forceps. Many practitioners were in the habit of trusting too implicitly to nature, allowing the patient to endure much needless suffering and jeopardizing materially the life of the infant, when by a little judicious assistance they might aid the otherwise fruitless efforts of the uterus to overcome the resistance, and terminate labour hours, and in many cases days before nature herself would accomplish it.

Dr. Roper remarked on the desirability of using ergotine by hypodermic injection. In the most severe cases of flooding, where the organic functions of life were at such low ebb, it was useless to give ergot by the stomach, because it was almost always immediately vomited, or if retained, the absorptive function of the stomach was temporarily in a state of abeyance. A remarkable feature in so small a number of cases as 995 was the occurrence of so many of a neurotic kind ; thus, there were seven cases of eclampsia and three of puerperal mania. Are the women of Canada naturally more neurotic than those of Great Britain ? During the past year (1877), 2409 women were delivered in the Eastern Division of the Royal Maternity Charity, with the occurrence of only one case of eclampsia. Among 10,000 women delivered in this same Charity during the last four years there has been but one case of mania. There seemed great difficulties in the way of explaining such a contrast.

Dr. John Williams said that when ergotine was injected beneath the skin it caused a good deal of irritation and gave rise in some cases to abscess. The active principle of ergot had been discovered and named sclerotic acid. It was soluble in water, one grain dissolved in six minims. The dose was half a grain. It caused far less irritation than ergotine. He had used it in a large fibroid with the result of arresting the hæmorrhage and diminishing the size of the growth.

In answer to Dr. Edis Mr. J. D. Brown said,—I have waited,

Sir, to see if any Fellow would rise to say a few words on behalf of country practitioners. As no one has done so I venture to express my opinion that Dr. Edis has been singularly unfortunate in his experience of country practice. Of course there can be no doubt that the special cases he has mentioned were serious cases of dangerous neglect, but I think, that when a lady mentions, as Dr. Edis says, that she was allowed to go on for several days in labour, it is probable, unless anything is shown to the contrary, that the delay was in the first stage before the os uteri had dilated, and that therefore there was no harm in waiting. As regards my own practice I do not hesitate to use the forceps if I find there is no progress after full dilatation of the os, and I should feel ashamed of myself were I to allow a case to go on for two hours without progress after such dilatation is complete.

MARCH 6TH, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.

Present—59 Fellows and 5 visitors.

Books were presented by Dr. Samuel C. Busey, Dr. H. Fritsch, Professor Karl Schroeder, and the Obstetrical Society of Leipzig.

The following gentlemen were admitted Fellows of the Society:—Frederick E. Cockell, Jun., M.R.C.S.; Thomas Walker Coffin, M.R.C.S.; Alex. M. Lang, L.R.C.S. Ed., and Owen Elias Owen, L.R.C.P. Ed. (Brynsiencyn).

The following gentlemen were also declared admitted:—Henry N. Davies, L.R.C.P. Ed. (Cymer); John I. Donovan, M.D. (Ballincollig); Wm. A. Thomson, F.R.C.S. (Sudbury); and Edw. White, M.D. (Birmingham).

The following gentlemen were elected Fellows of the Society:—Henry Allen Aldred, M.D.; Fred. Stephen Alford, M.R.C.S.; Walter Edward Husband, M.R.C.S.; and John A. Lorimer, M.R.C.S. (Farnham).

The following gentlemen were proposed for election:—Harrison Branthwaite, F.R.C.S. Ed.; Job Edwin Brooks, L.R.C.P. Ed.; and Albert Warren Leachman, M.D. (Petersfield).

Dr. GALABIN showed a modified form of Dr. Peaslee's metrotome. He considered that this instrument was less known in England than it deserved to be. The principle was the same as that applied in Civiale's urethrotome, and

in that of Sir Henry Thompson. The instrument consisted of a straight tube, very narrow for its terminal $1\frac{3}{4}$ inch, within which slides a blade, lancet-shaped toward the end, but blunted at the extreme point. Two or more blades were provided with each instrument, one being $\frac{8}{10}$th inch, and one $\frac{1}{4}$ inch wide. The instrument was especially applicable for incision in case of stenosis of the internal os, although it might be used for the external os. Its advantage was, that it divided both sides equally to an exact and very moderate extent, while Simpson's, or other similar metrotomes, were apt either to cut too deeply, or, if the operator was timid, not deeply enough. It could also be introduced through a very small canal, while the single or double-bladed metrotomes were usually made larger than the ordinary sound, and could not be passed without previous dilatation in the cases which most required incision. In the instrument shown the modifications were, that the tube was made round instead of flat, which much facilitated its introduction. The terminal part of the tube was also narrower than that of Dr. Peaslee's, being only $\frac{1}{12}$th inch wide near the extremity, and $\frac{1}{10}$th inch at its maximum. A spring was also introduced within the instrument, which prevented the blade sliding forward prematurely, and returned it after use.

Dr. Aveling remarked that the metrotome exhibited was very similar to a urethrotome he had been in the habit of using in cases of extreme stricture to prepare the way for his hysterotome. He believed the internal os could not be divided with Dr. Galabin's instrument as its blade was too short.

Dr. Galabin also showed microscopic sections prepared by Dr. Herman and himself from the tumour shown by Dr. Chambers, and referred to them for examination at the last meeting. Although, from its naked-eye appearance, many had supposed it to be cancer, it proved to be a very soft fibro-myoma. In one of the sections would be seen numerous spaces with very delicate walls, dotted with nuclei at regular intervals. These were clearly nuclei of

endothelium, and the spaces were therefore not embryo cysts, but very thin venous sinuses, entirely destitute of any muscular or fibrous coating.

Report on the Specimen exhibited by Dr. Chambers.

The specimen consists of the enlarged uterus, together with a part of the broad ligaments on both sides, and a large tumour situated apparently between the layers of the left broad ligament. The uterus forms a globular mass, which is now $5\frac{1}{4}$ inches in length externally. It appears to have been divided at about the internal os, no portion of the cervix being included in the specimen. To the whole of the left wall of the uterus is attached a tumour, bulging into its cavity. The uterine cavity is displaced to the right side, and stretched over the tumour. In the present shrunken condition of the specimen its length is just over 4 inches. The substance of the tumour is continuous with the uterine wall, and not separated from it by any capsule. The tumour seems to encroach irregularly upon the wall of the uterus; where it is attached, towards the lower part, the thickness of the uterine wall is in some places increased to $1\frac{1}{4}$ inches, while at other parts it is much thinned, and is not where thinnest more than $\frac{1}{5}$th inch thick. In its free portion the thickness is about $\frac{3}{4}$ inch. The ovaries and Fallopian tubes are intact on both sides, and free from any adhesions. The right ovary has in it several small cysts, not exceeding $\frac{1}{3}$ inch in length, containing serous fluid. The left ovary shows a recent clot. The tumour in the left broad ligament is not rigidly attached to the uterus, but is connected with it by tissue similar to that forming the mass of the tumour, only of looser texture. This tissue is continuous with the uterine wall. The tumour in its present condition when lying upon a tray measures $13\frac{1}{4}$ inches from before backwards by $7\frac{3}{4}$ inches transversely. Near its upper and outer portion is a cystic cavity 4 inches by $2\frac{1}{2}$ inches in

size. It has no definite cyst wall, but is traversed by numerous delicate fibres of connective tissue. A similar cystic cavity nearer to the base of the tumour had been laid open during the operation, and there are numerous smaller ones apparently formed by separation of the tissue of the tumour. These cavities contain a reddish fluid, which deposits spontaneously a considerable coagulum. It contains a large quantity of albumen, becoming nearly solid on heating. It does not contain paralbumen nor mucin. Under the microscope it shews some long spindle cells, as well as blood-corpuscles and leucocytes. It therefore corresponds to the fluid usually found in fibro-cystic tumours. Attached to the uterus on the right side are several pedunculated growths not exceeding 2 inches in length, some situated between the folds of the right broad ligament, some projecting into the peritoneal cavity. Their substance is similar to that of the large tumour, and is continuous with the uterine wall in the same way.

The tissue both of the extra-uterine and intra-uterine tumours is soft and somewhat gelatinous in appearance, but it is tough on section, and no milky juice or cells can be scraped from the cut surface. Microscopic sections show its structure to be that of a fibro-myoma, having very numerous and wide interspaces between the bundles of fibres. In some parts of the growth numerous nuclei are scattered through the tissue. The large extra-uterine tumour differs from the intra-uterine only in the fact that its texture is looser, and in many parts the nuclei more abundant. The thickened portion of the uterine wall at the place of attachment of the internal tumour is degenerated, having an excess of fibrous tissue, and shading off gradually into the substance of the tumour.

The weight of the uterus, together with the tumours, after being drained of fluid, is 9 lbs. $15\frac{1}{2}$ oz., the weight immediately after removal having been 14 lbs.

Alfred L. Galabin.
G. Ernest Herman.
Thomas Chambers.

History of the case after the operation.—The patient quickly recovered from the effects of chloroform and ether; a quarter of a grain of morphia was injected into the upper part of the thigh immediately after the operation.

Four hours after operation.—She complained of pain in the back, and weight, as if something was pressing into the pelvis; felt disposed to be sick, but did not vomit; had a desire to micturate, but could not; skin warm and moist; pulse 84; temp. 100; respiration 26. The catheter being passed a small quantity of urine, tinged with blood, was drawn off. She had a great desire to sleep, but could not: injection of morphia repeated. Iced barley water, or milk and lime water as a drink; beef tea enemata every four hours.

Eight hours after operation.—Pulse 90; temp. 100·5. Has slept a little; catheter again used; urine still tinged with blood. Still complains of weight in the pelvis, with discomfort in the rectum: nothing could be detected with the finger; to have 25 drops of opium added to the enema.

Sixteen hours after operation.—Not so much pain: has slept at intervals; has vomited on two occasions a little frothy fluid. Pulse 120; temp. 101·6; respirations 28; skin warm and moist; face pale and somewhat pinched; still complains of the weight in the back; there is a little pain over the lower part of the abdomen; to have a warm poultice placed over the lower third; and iced champagne if it can be taken.

Twenty hours after operation.—Changed in all respects for the worse. She quietly expired twenty-six hours after the operation. She was calm and collected to the last moment.

Post-mortem fifteen hours after death.—Rigor mortis well established; wound healthy, considerable progress had been made towards union by first intention; no sign of peritonitis; no flatus in the bowels; no fluid in the abdominal cavity; no hæmorrhage; the stump had shrunk a

good deal since the operation, but it appeared very healthy; it was extensively attached to the brim of the pelvis, and extended backwards to the left side of the lumbar spine and left ilium; it had also extensive ramifications in the region of the left kidney as well as in that of the bladder. The bladder was very much elongated, and appeared to have been drawn upwards with the ascent of the tumour so as to form a cone-shaped cavity, the cone being involved with the tumour so intimately as to escape recognition during the operation; the result was the ensnaring of a small piece of the cone or fundus in the ligature which embraced the whole stump. This unfortunate accident had led to a further complication, viz. the removal of the tip of the cone with the tumour. Although the bladder was neither inflamed nor congested, it is but fair to suppose that the injury it had sustained and the resulting nervous shock contributed greatly to the result. The uterus had been divided through the cervix. There appears reasonable ground for believing that if the operation had been undertaken a year sooner—before the secondary growth appeared—it would have been much simpler, and the prospect of success greater.

A NEW FORM OF TUBE FOR INJECTING THE UTERUS AFTER LABOUR OR ABORTION.

Dr. Hayes exhibited a tube which he had lately devised and used for the injection of the uterus, after labour or abortion, with a solution of Condy's fluid and other disinfectants. It might conveniently be used for the injection of hot water—a therapeutic measure now engaging much attention. The tubes, in common use, were much too short to admit of easy or satisfactory introduction into the uterus, especially when it attains the size, which is so common in septicæmia. Being made of gum elastic, they

soon become very flexible when exposed to the heat of the vagina, and, impinging against the inner surface of the uterus, are very apt to double up in the lower portion of the uterus or vagina. For this reason, on several occasions when he had employed them, he had entirely failed to reach the fundus of the uterus, which, being usually the placental site, it was most desirable to wash. It had therefore occurred to him that it would be better to use a rigid tube. A still more serious objection to the ordinary tubes was the small number of perforations for the emission of the injected fluid. The result was, that the fluid was expelled in a few widely separated streamlets, and thus a large part of the uterine cavity might be unbathed by it. Hence our antiseptic measure might be frustrated, as the focus of infection might remain untouched. The present tube was much longer than those ordinarily used; it was curved so as to correspond to the usual curve of the uterus after labour; and the perforations in its extremity were very numerous, so that the injected fluid was discharged into the uterus in the form of a spray. It was made of silver, so that it might be light, and after use might be disinfected by boiling in a suitable disinfectant. Further, it would answer equally well for vaginal injections. It was made to fit on to a Higginson's syringe. Should any one prefer a flexible tube, and yet desire the emission of the injection in the form of a spray, a coarsely perforated metallic end could readily be fitted on a gum elastic tube.

The tubes can be had from Matthews and Son.

Dr. Rogers said that he had been induced to have a very similar tube made for him more than twenty years ago, and he had constantly used it since then. It was perforated like Dr. Hayes's tube, and it was made of silver.

Dr. Cleveland thought the tube would prove effective mainly from its length. He had used a large flexible male catheter for intra-uterine injections, but was not aware that the tube with which Dr. Hayes compared his instrument was intended for other than vaginal injections.

Dr. Murray thought that the tube for intra-uterine injection should have large apertures in preference to small ones which

were liable to become clogged up. It was necessary to bathe the placental site as rapidly as possible, and this was best secured by a tube with large perforations. He had for the last twelve years been in the habit of using a tube of the same length as that shown by Dr. Hayes, but made of vulcanite and with larger apertures.

Dr. Fancourt Barnes exhibited for Dr. Barnes some vulcanite tubes designed to facilitate the injection of perchloride of iron or iodine into the uterus. The last two or three inches of the tubes are provided with eyelets. Some pieces of sponge are passed into the tube saturated with the fluid; the tube is then introduced into the uterus, and the fluid, expressed from the sponge by the pressure of a piston, oozes gently into the uterine cavity. The tubes are especially useful in cases of hæmorrhage after abortion, and some time after labour in cases where the uterus has not fully undergone involution.

Dr. Herman showed a unicorned uterus. The organ lay close to the right pelvic wall. The right Fallopian tube and ligaments were short, but otherwise normal. The left ovary was high up on the left side, near the internal abdominal ring. The left canal of Nuck was very large, and a thick fibrous band proceeded from the ovary down this canal: the end of this band presented an enlargement, which was more vascular than the rest. A thin, but firm and strong fibrous cord, between two and three inches in length, united the ovary to the upper part of the rectum. On the surface of the pelvic peritoneum a flat band of slightly diverging fibres could be seen running from the cervix uteri in the direction of the left ovary. There was no other trace of the Fallopian tube or ligament of the ovary on this side. Both ovaries showed evidences of having discharged ova. The patient was unmarried, aged forty-nine. Her sister stated that the patient had ceased to menstruate for three years, that the flow had always been scanty, and that she had never complained of pain. She died from capillary bronchitis.

ON TRACTION BY THE LOWER JAW IN HEAD-LAST CASES. A LABORATORY NOTE.

By J. Matthews Duncan, M.D.

The objects proposed to be gained by this application of force are two; first, flexion of the head; second, extraction of the head, or assistance in extracting the head. Flexion of the head cannot be attempted in this way without producing extractive result. Extractive effort cannot be made in this way without tending to produce flexion.

Instead of working by means of one or two fingers in the fœtal mouth, seizing, hook-like, the middle of the lower jaw, it has been recommended by highest authorities to use the fingers applied to the fossæ caninæ, or beneath the lower margins of the orbits for this purpose. To speak of any effort made by this latter hold as extraction is practically absurd. The force in the direction for extraction is roughly expressed by the friction between the pulps of the accoucheur's fingers and the skin of the fœtal cheeks; and, at the highest, it must be trivial. Besides, such minimal extractive force is far outweighed by the pressure of the fœtal head against the maternal passages produced by the accoucheur's fingers, with a view to maintaining his friction-hold of the fœtal upper jaw, a pressure which resists the extractive force.

No doubt this hold may be sufficient to produce flexion, at least temporarily, and especially if, in imitation of Smellie, pressure on the occiput be made simultaneously with the same object in view. But the value of the flexion produced in this or in any other way is open to grave question, as the sequel proposes to show.

I have in vain tried to devise experiments, whose object should be to ascertain the amount of force available, for flexion or extraction, by unaided pressure on the canine

fossæ of the upper jaw; and I have, meantime, given up the attempt, being convinced that they would show its utter inutility.

In effecting delivery of the after-coming head by artificial interference, two applications of force are familiarly employed. The first, frequently relied upon exclusively, is pulling, according to different plans, by the spine. This is no doubt our main force, of which the available amount has been carefully estimated, and the mode of its application to the head elucidated.

The second is expression, a method to which, as applied to the after-coming head, E. Martin, Goodell, and others, have in recent times specially directed attention.[1] But I know of no inquiry into the amount of propelling force that can be made available by it.[2] Nor do I wish, in this place, to enter upon the subject. Only I may remark that the inquiry is attended with some difficulties. For, while the force that may be applied is practically unlimited, the force exerted by the hand or hands of the accoucheur, as applied with this view in ordinary practice, is easily limited. A dynamometrical trial will show the pressure by the hand and arm to vary from 30 to 40 lbs., while the weight of the body can be made to bear, through the hand, with a force of about 100 lbs., or more. This point, as I have said, may be approximatively determined by simple experiments with a dynamometer: but here a difficulty begins, in estimating how much of this force is left and available as a propelling power. It may turn out to be not a mere matter of pushing in the right direction, but a case in which the obstacle is aggravated to some extent by the influence of the pressure in changing the shape of the head.

The subject may easily be investigated and settled by

[1] In passing I may notice Dr. Goodell's erroneous description of me as "a strong opponent of version" ('Amer. Journal of Obst., &c.,' Aug, 1875, p. 208.) How he has acquired this notion I cannot imagine.

[2] Breisky gives Kristeller's estimate as 8 kilogrammes when the method is used in a head-first case. 'Corr. Blatt. f. Schweiz. Aerzte,' 1875.

laboratory experiments—a source of knowledge which is as yet practically almost a virgin goldfield. Some of the dangers attending this mode of aiding delivery have been already pointed out by Schatz and Ruge.

An important addition may be made to these two forces, namely, a third force produced by pulling the lower jaw of the fœtus, and to this I now desire to draw special attention. It is available to the full amount when the child is dead, but I cannot state the limits of its safe applicability to the living fœtus. The chief object to be gained by it is the rescue of a living child from death, which is not distant by many seconds or minutes, if it is not safely delivered; and there can be little doubt that the force which is applicable may be used to a great if not to the full amount, short of injuring the structures of the child, so as to disable it from swallowing, or from the less important sucking. Others as well as myself have used it as an adjuvant force, but only with the vaguest idea of the range of its utility. Veit, who places much reliance on it, says it may be used with such force as to bring a head through a contracted brim with a deep impression in the cranium.

In head-last cases, danger not rarely occurs, even in ordinary circumstances, when the base of the skull is pressed into the brim of the pelvis. Such danger is not, as is generally stated, from compression of the cord, for the cord and placenta are already useless for the quasi-respiratory function of the child, if the placenta is not even actually separated. The danger is from asphyxia and from the infarction of the air-passages with foreign substances drawn in by violent attempts at inspiration. But pulling by the jaw is not required in ordinary head-last deliveries, for in such the force applicable through the spinal column is more than sufficient for the purpose of rapidly completing the extraction of the child. On the other hand, in cases of obstructed delivery, the aid of this force may be advantageously invoked; and morbid obstruction occurs with so preponderating frequency in the

brim of the pelvis, that cases of this kind alone may be held in mind with a view to the present discussion.

Writing on this subject, Carl Ruge[1] makes the following statement regarding injuries from lower jaw traction: —"Luxations of the maxillary articulation, whose occurrence Rokitansky particularly seeks to deny, are, like all luxations, very rare. But that injuries of the lower jaw, fractures, separation in the symphysis of the halves of the maxilla, with and without laceration of the soft parts, do occur, we shall proceed more closely to show. Rokitansky has never seen them. But while any striking disproportion (considerable hydrocephalus for example) may give rise to the greatest laceration of the skin, as of the walls of the oral cavity, yet even these (that is, disproportions) are not necessary: in a male child of 1415 grammes weight, and of 24—38 centimètres in length, there was found, after turning for placenta prævia in a seventh labour with a normal pelvis, a fissure in the lip proceeding from an angle of the mouth, and a separation in the symphysis of the lower jaw. Again, in a male hydrocephalic child, weighing 3430 grammes, 45—62 centimètres in length, there were found, besides various other injuries, separation in the symphysis of the lower jaw, great laceration of the mucous membrane and of the muscular tissue in the cavity of the mouth, and rupture of the genioglossus. Similar is a case in which were found a fracture of the mandibula, and in addition great laceration of the soft parts. These injuries, illustrated in three separate examples, are disputed by many, as by Veit, who says, 'he has himself never observed injuries of the jaw, of the angle of the mouth, or of the floor of the mouth, and has in vain searched through the literature for examples satisfactory to him of such disasters in the course of careful procedure.' It would (rejoins Ruge) of course be an easy solution to lay the blame of every disaster of this kind, not on the method, but on the person pursuing it. Injuries are certainly not to be gainsaid in this way." In

[1] 'Zeitschrift für Geb. und Frauenkr,' i Band, 1876, s 77.

another place Ruge remarks, "Fractures of the * * * mandibula appear to occur more frequently in normal pelves and normal and small children. Among 8 examples are 4 normal and 2 narrow pelves, and 2 undescribed."

I cannot, from my own experience, contribute any illustrative accident, and my experiments show injuries only when great force was used. But, even if dreaded accidents occurred in actual practice frequently, this would not utterly destroy the utility of the method, but only introduce an important and untoward consideration into the estimate of its value and applicability.

The force exerted by pulling the lower jaw is applied to the base of the fœtal head at the temporo-maxillary articulations; and, considering the symmetry of these parts, we may hold the most favorable direction of the force as running through the sagittal mesial plane of the fœtal head in a line from the mental symphysis to the middle of a line joining the centres of these articulations, and continued onwards. The temporo-maxillary articulations are not only in front of the occipito-atlantoid, but also considerably in front of the mesial coronal plane of the fœtal head, not only in front of the centre of flexional movements of the head, but also in front of the centre of the head's mass. They are also in front of the bitemporal, or that diameter on which the head moves when caught, in a flat pelvis, between the sacral promontory and the symphysis pubis. These observations show that the force in question is applied to the fœtal head somewhat more favorably for the completion of its delivery than is that ordinarily applied through the spine, for it has an inevitable tendency to maintain or increase advantageous flexion, which the corresponding but different arrangements of the spinal force have not.

The experiments have been performed on fresh adult fœtuses born dead, and they have been witnessed by Drs. Macdonald, Underhill, Godson, Champneys, and others. The fœtus used is suspended between two rounded bars, only sufficiently approximated to prevent its slipping

through, or by a contracted wooden brim in imitation of a moderately contracted actual pelvic brim. The weight is attached to a hook, which is fixed over the lower jaw. The weight is not allowed to remain during the whole course of the experiment, but for less than a minute at a time, or with each successive addition to the amount of weight attached.

1. With increments of the weight attached no indication of injury was observed till 28 lbs. were reached. Then a slight crack was heard.

2. With increments of the weight attached no indication of injury was observed. After 56 lbs. were on two occasions used, without producing any outward indication of injury, the maxillary bone and its articulations were roughly dissected with a view to discover any laceration or other injury. None was detected.

3. With increments of the weight attached no indication of injury was observed till about 58 lbs. were reached, then slight cracks were heard. The jaw and its articulations were roughly dissected, and, except separation of the two halves of the bone at the symphysis, no injury was detected.

4. With increments of the weight attached no injury was observed till 56 lbs. were suspended. Thereafter it was found that, while externally there was no open wound, there was a large wound inside the mouth over the right temporo-maxillary articulation. Both temporo-maxillary articulations were dislocated, with much laceration of soft parts. On the left side the condylar epiphysis was separated. [The remark may here be interpolated that, as in other parts of the body, the soft parts remained entire, while the bones and joints gave way.]

These experiments are sufficient to show that, in dragging the lower jaw, we have a delivering force of much greater amount than is generally supposed, and admirably adapted for the purpose. There are few cases of detruncated undelivered head in which more is required than the use of this force, coupled, if need be, with expression

through the hypogastrium, and with or without perforation.

In cases of dead children coming head-last, or in cases where life is sure to be lost, the application of a force of half a hundred weight must be, if not sufficient, a great addition to the delivering power, and it is available in a very easy and well-adapted way.

It is now ascertained that a force of half a hundred weight (56 lbs.) may, at least in some cases, be applied by dragging the lower jaw of the fœtus without producing any easily discovered injury of parts. It appears to me quite certain, that much more force may, while the fœtus is alive, be applied in this way without fear of evil results, than is generally supposed. But what is the limit of the safe application I cannot at present say, yet I would not be astonished if it proved to be nearly 50 lbs. The dangers to be apprehended are not injuries of the lips and mouth, but such injuries of the jaw or its articulations as might interfere with sucking and swallowing. Of course other injuries may be produced if, as Spiegelberg points out, the traction is not well and skilfully done, and experience is required to enable us to judge what injuries or what amount of injuries can be borne without great evil resulting, or without fatal results. Compound dislocation, such as occurred in Experiment 4, would be almost certainly fatal. In that case the injury was done by a weight of 56 lbs.

Traction by the lower jaw is very widely recommended in order to produce flexion of the head, and to this point attention will now be paid.

In the experiments, of which some notes have been already given, nothing was plainer than that the amount of flexion produced by lower-jaw traction was so inconsiderable as to be nearly useless. The experiments were made, both with parallel bars only near enough to one another to prevent the head slipping through, and with a wooden model of a slightly contracted flat pelvis. Even when 56 lbs. were suspended on the lower jaw, the

flexion produced was slight and far from bringing the mento-occipital diameter into the axis of the brim, or parallel to it. If we regard not merely the temporo-maxillary joints, but the whole temporo-maxillary connections, it is plain that this lower jaw traction can have very little flexing force. Its whole amount may be usefully applied as a tractor, but it is very disadvantageously applied as a flexor, acting as it does very near the centre of the fœtal head's motion, namely, the bitemporal diameter.

If such is the case when only the weight of the fœtal body is acting through the spine as a dragging force, we must consider what effect additional traction through the spine will have. Such additional traction is invariably resorted to. It may be made at least twice as great as the force available through the lower jaw, and it acts in a line as far behind the centre of motion as the lower jaw force is in front of it; and, as a result, it completely undoes any flexion that may be produced by the lower jaw force.

The experiments show that neither does the lower jaw force produce considerable flexion, nor does the spinal force produce considerable extension, of the head. Both may be applied with advantage, and simultaneously, to bring a fœtal head quickly through an obstructing brim, as an extracting force, without any regard to flexion.

A study of the injuries of the fœtal head, produced by the promontory of the sacrum in actual practice, shows that the head passing in the best manner does not do so in a state of flexion. The demand for flexion is indeed not well founded. It is not produced by art; it does not take place when delivery is successfully accomplished, and it is not desirable so long as there is sufficient space for the fronto-occipital diameter in the largest available transverse diameter of the brim.

In its progress after it has passed the brim, the head cannot advance favorably in ordinary cases without being in a state of flexion. This state very rarely requires to be produced. It occurs as a natural consequence of the mechanism of delivery, and the ordinary aid given by

pulling through the spine tends to maintain it and to bring the chin over the perineum to be the part of the head first born. If, then, lower jaw traction could produce it, it would still be useless because not required.

"You are told (says Barnes, 'Obstetric Operations,' 3rd edition, p. 213) to pass a finger into the mouth, or to apply two fingers on the upper jaw, to depress the chin in order to keep the long axis of the child's head in correspondence with the axis of the pelvis. Now this is a piece of truly 'meddlesome midwifery,' because it is perfectly unnecessary. The chin is not likely to be caught on the edge of the pelvis or elsewhere, unless by a previous piece of 'meddlesome midwifery' you have been busy in 'giving the turns.' The truth is (he adds), Nature has taken care to arrange the convenient adaptation of means to end in head-last labour as in head-first. It is true that the occipito-spinal joint is situated behind the centre. It might, *primâ facie*, appear that the occiput, forming the shorter arm of the head-lever, would tend to roll back upon the nucha. But this is not so in practice. The broad, firm expanse of the occiput, forming a natural inclined plane directed upwards, is surely caught by the walls of the parturient canal as the head descends. The greater friction thus experienced by a larger superficies favorably disposed virtually converts the shorter arm of the lever into the more powerful one; it is more retarded in its course, and therefore the chin is kept down near the breast, and therefore, again, there is no need for the obstetrist to meddle in the matter."

In ordinary circumstances, as Barnes points out, efforts at flexion are not required. The whole force available through the spine is rarely exerted to complete delivery after the head has passed the brim, and it is easy to make this force produce the flexion; indeed, as ordinarily applied, it does so, although the operator is unconscious of this resultant of his efforts. Pulling the body forwards in the direction indicated by the circle of Carus, leads to the occiput becoming fixed behind the symphysis pubis, and

thus becoming the centre of motion. The occiput is then the pivot on which the head is moved and flexed by the force applied through the spine. By a simple adjustment of the direction of the force through the spine, it may be made to take effect as a flexing or as an extracting force, or as a compound of both. Pull the spine more forwards and you have flexion. Pull more nearly downwards and you have extraction. Pulling by the lower jaw is not required as a flexing force, and if required would be very inefficient. These points can be illustrated in a common phantom as well as in the delivery of a living woman.

It has not been the purpose of this paper to enter into the whole subject of the delivery of the after-coming head; but it is not out of place to remark, that the views herein given tend not only to maintain the value of the Prague method, but to show that other methods really act on the principles avowedly adopted in the Prague plan.

Finally, there is still urgent demand for further investigation of this subject, in order to determine to what extent in the living child expression and traction on the lower jaw can be safely carried and relied upon. All other applications of force are really resolvable into traction by the spinal column (Prague). The limits of this force[1] are pretty well known, and do not permit the exertion of so much as is sometimes yet rarely required and justifiable if judiciously used. But the injuries liable to be inflicted upon the spine, if at all considerable, are of the gravest character, if not necessarily fatal. Adjuvant forces are therefore not only desirable, but urgently demanded, and to the full extent of their capabilities.

Traction of the after-coming head by the forceps is not to be considered here, because it is scarcely compatible with traction by the lower jaw. It is a method of which I have had very little experience, and for which, meantime, I entertain little favour.

[1] 'Contributions to the Mechanism of Natural and Morbid Parturition,' by J. Matthews Duncan, p. 133.

The PRESIDENT, in referring to Dr. Duncan's important and clearly written paper, said that the subject it dealt with was one of much moment, and he would be glad to hear the remarks upon it of those who had had the largest experience of practical midwifery. The great point for discussion seemed to him to be how best to manage the delivery of the after-coming head. Years ago, he used to practise and teach the drawing down of the head by applying the fingers of one hand to the canine fossæ, and pressing up the occiput with the other hand. But we now learned from Dr. Duncan that it was not possible to achieve much by this method, nor, indeed, did it appear from his paper that we were able to do much more by traction on the lower jaw.

Dr. FANCOURT BARNES, having practised many times the operation of delivering the after-coming head with the forceps on the Budin phantom, would like to point out the comparative ease and simplicity of this as compared with other obstetrical manœuvres. It seemed to him to be the safest and easiest of all obstetric manipulations. In addition it enabled the operator to avoid the danger of dislocating the child's neck by making undue traction on the body of the child.

The PRESIDENT said that it had always appeared to him one of the great disadvantages of the use of the phantom, that operations upon it seemed so uncommonly easy, and he had always hesitated to draw conclusions from these operations to those on living women.

In reply to the President's previous remarks, Dr. MATTHEWS DUNCAN said that he had particularly pointed out in his paper that the method of Smellie—that of traction with the fingers in the fossæ caninæ and simultaneous pressure upwards on the occiput—was an efficient and valuable method of difficulty in some head-last cases.

Dr. PLAYFAIR said that of late years, since becoming familiar with the writings of Goodell on the subject, he had been much impressed with the great advantage of the expression of the head from above in these cases. It seemed to him that it was of primary importance not to depend on one method alone, and the great advantage of expression was that it could be performed in union with traction.

Dr. CLEVLAND said it might be consoling to others as well as himself, in recalling the amount of force they had occasionally exerted on the fœtal jaw, to find that it probably did not exceed the limit of safety as determined by the interesting experiments of Dr. Matthews Duncan. He believed that greater traction might be borne without injury than is often attempted, but it was important to bear in mind that the difficulty lay in determining the amount of force which the operator was really applying. There was a marked difference in the strength of hand possessed

by accoucheurs, and one might consider he was exerting a force equal to fifty pounds, while in truth it might not exceed thirty, and, on the contrary, a force of seventy or eighty pounds might be applied, under some circumstances, almost unconsciously. As bearing on this point he might state that, without pretending to extraordinary strength of hand, he could raise a weight of fifty-six pounds with his little finger, and, as he had subsequently found, a weight of seventy pounds with ease with the index finger alone.

Dr. Hayes said that quite lately he was forcibly impressed with the large amount of force that could be used to no purpose. The child was dead, but the attendant had utterly failed to extract the head, though he had tried for some time, and had employed no small degree of force. The occiput was obviously caught upon the symphysis pubis, extrême extension of the head having taken place. Dr. Hayes adopted Smellie's method, and in a moment the head slipped out. We ought to try and manipulate as much as we could with a view of getting the head in the most suitable position for exit before we employed a large amount of force in ordinary pelves.

Dr. Roper remarked on the absence from the paper of any distinction between the different situations of the head, whether above the brim, in the cavity of the pelvis, or down on its floor. Take, for example, a case where as an alternative to craniotomy podalic version is effected in hope of getting away a living child. Here the base of the fœtal head is above the brim. In this situation we have but little control in flexing the head. Our manipulations must here be comparatively limited. It is a case of a hard pull on the legs of the child with a very little understood mechanism about it. When, however, the head was in the cavity of the pelvis or on its floor the mechanism of delivery was plain. The occiput arrested at the posterior of the symphysis pubis required to rotate on this as a centre, or, to express it more simply, the head required merely to undergo flexion. Pulling on the lower jaw with two fingers of the left hand in a direction downwards and forwards, and with two fingers (fore and middle) of the right hand on the occiput pushing upwards and backwards (a bipolar method), flexion is easily brought about. At the same time as these movements are being used the back of the neck is grasped by the thumb of the right hand on one side and the ring and little fingers on the other side, in which we have a powerful means of extraction, and can at the same time direct the movements of the head with much exactness, thus first bringing the chin, mouth, nose, forehead, and bregma over the posterior fourchette. By dividing the fingers of the right hand in their application to the sides of the neck and to the occiput we have in this one hand the equivalent of two.

Dr. Braxton Hicks felt that there was considerable difficulty

in discussing Dr. Duncan's paper, for the author had not attempted to treat the whole question of the delivery of the after-coming head. Had he done so, he would probably have advocated a combination of traction on chin and neck and pushing up the occiput, combined with pressure from above, a plan which he had adopted and taught many years. But the point dealt with by Dr. Duncan was quite different from this general question, and consisted in the determination of how much force might be safely used in a particular direction.

Dr. Wynn Williams quite agreed with the remarks of the President and other speakers as regards the old or Smellie's method of assisting the delivery of the head. He could not refrain from stating his opinions that no comparison could with safety be drawn as to the resisting power of the tissues of a living child and a dead one. There are certain vital opposing forces in action in the living child which would render the muscular and other tissues much more likely to be injured in the living than in the dead child. This is well exemplified in the case of a drunken man who may have fallen from his horse or otherwise. It is well known that he generally escapes without any injury, and this is due to his semiparalytic condition and the non rigidity of his muscles. He (the speaker) should look with fear and trembling were he to see a living child fixed in the manner described by the author of the paper with a weight of fifty pounds suspended to his chin. A few weeks ago he had a boy of seven years of age brought to him to the Samaritan Hospital with a very peculiar appearance. The back of his head was pulled backwards, downwards, and to the left, by the action of the trapezius muscle, whilst the action of the sternocleido-mastoid of the right side was to twist the head partially round, giving the boy a very quaint appearance. Upon examination it was found that there was no insertion of the right trapezius and scaleni muscles into the occiput. On inquiry of the mother it was ascertained that the boy had been delivered feet first, and Dr. Wynn Williams had very little doubt that there had been some undue force applied in the delivery of the head, whereby the muscles had been torn across.

Dr. Clement Godson said that he had been much struck during Dr. Duncan's experiments with the small amount of force necessary to deliver the after-coming head of an unusually large child on a phantom pelvis, with a conjugate diameter of three inches, and the question occurred to him whether the soft parts did not interfere with delivery very much more materially than was generally imagined. He could not agree with Dr. Duncan in regarding with disfavour the application of forceps in head-last deliveries. He had himself in one case failed to deliver by Smellie's method; but on applying the forceps he had succeeded in at once extracting the head without any difficulty whatever.

Dr. Poole said he had on a previous occasion stated that he always had the long forceps ready in cases of version or foot or breech presentations, and that if there was any delay he almost invariably applied them to the head.

Mr. Mason said one of these head-last cases occurred in his practice yesterday morning, and was attended by his son. It was a primipara, and he stated to me that it was only by the use of considerable traction by the lower jaw that the head was delivered and no injury appeared as a result, even as far as he knew, to the sucking power of the child. A few weeks ago he had a similar case from turning. Smellie's method in this instance was successful. His experience in the application of the forceps in these cases had not been attended with any good practical result.

The President pointed out that it was much easier to apply the forceps to the after-coming head when the patient was delivered in what he might call the continental position, where she lay on her back. Here it was possible to secure ample space for the use of the forceps, by drawing the body of the child well forward towards the abdomen of the mother.

Dr. Murray agreed with the President as to position making some difference; but he had, nevertheless, applied the forceps in two cases with complete success, though the patient remained in the ordinary position, and he considered that the use of the forceps was indicated sooner rather than later in the delivery of the after-coming head when difficulty arose.

Dr. John Williams said that his experience supported Dr. Murray's statement that the application of the forceps to the after-coming head was not associated with any great difficulty. He had used the instrument in several such cases, and had effected delivery when the ordinary means had failed. When properly applied with the handles directed backwards the process was a powerful means of producing flexion of the head.

Mr. Cockell urged the importance of sweeping the body of the child round towards the mother's abdomen before applying the forceps.

Dr. Matthews Duncan said, in reply, that with regard to the application of the forceps to the after-coming head he would ask to be allowed to say no more than this: he had used the forceps in this way, and he had no positive objection to it, but for his part he preferred the other methods of delivery. As to the other criticisms which had been passed upon his paper, he agreed with them entirely. With regard to the method of expression, he would only say that he desiderated to know what force might be really used in this way, because, if any amount of force might be applied in expression, we had a simple unlimited power. He admitted that we were very ignorant as to the amount of force we were in practice applying,

and he thought it extremely desirable that improvements should be made in those methods by which we could estimate how much force we were using against the delicate structures we had to deal with. It was, he felt, the duty of every one to train himself in this direction by means of dynamometrical experiments. Smellie's method he believed only to be useful in the slighter though more numerous cases; in the more difficult cases it was not of much use, and for this reason: the hands were so employed in manipulating the head that no great amount of force could be employed by traction. With regard to the objection which had been raised as to the difference in resisting power between living and dead tissues, he would remark that the operation in actual practice would be performed frequently on a dead as well as on a living child. He could imagine no means short of vivisectional experiments of arriving at an absolute conclusion as to the relative effect of force applied to a living and a dead fœtus; but after consulting physiological and physical authorities, he was convinced that a child living and a child recently dead were the same in regard to tensile strength.

A CASE OF PROTRACTED LABOUR, IN WHICH THE USE OF THE FORCEPS WAS TYPICALLY INDICATED. CHILD STILLBORN.

By George Roper, M.D., M.R.C.P.

PHYSICIAN TO THE EASTERN DIVISION OF THE ROYAL MATERNITY CHARITY; PHYSICIAN TO THE INFIRMARY FOR CHILDREN AND WOMEN, WATERLOO BRIDGE ROAD.

On the 29th of October, 1877, I was requested by a midwife of the Royal Maternity Charity to visit R. B—. The written report stated the case to be "face to the pubes."

On my arrival at the patient's house I found her delivered naturally, the use of ergot excepted. The woman was forty years old, and very fat. This was her fourteenth child born at full term. Her labours had all been severe, through, it was said, the large size of the children; and in a former labour a child had died in its birth from the

hardness of the labour. I learned that the membranes had ruptured spontaneously and without pain, twenty hours before the birth of the child. Slight pains came on five hours afterwards, when the midwife was sent for. There was then scarcely any dilatation of the os uteri. In twelve hours after rupture of the membranes the os was the size of a florin, and pains feeble. After five hours more, when the os was nearly fully dilated, the pains still being feeble and the head making but little progress, the midwife gave a dose of ergot. Severe pains were speedily set up, and became so great and frequent that the patient could scarcely be kept on the bed. Delivery occurred two hours and a half after ergot had been given. The child was stillborn, and its appearances indicated that it had very recently died in its birth. The mother felt sure of its movements four hours before delivery. It was a male, weighing $9\frac{1}{2}$ lbs. Its head was of very large size; the ossification of the cranial bones so complete that the fontanelles and sutures were nearly obliterated. There was great elongation of the head in the fronto-occipital axis; this seemed to be greater than it really was, through the formation of a large scalp tumour about the posterior superior angle of the right parietal bone. For the purpose of contrasting this head with one of normal size and degree of ossification at birth at full term, I have procured the cast of such a head, marked No. 1. In this, which is by measurement quite a full-sized head, the sutures and fontanelles are well delineated. Its shape is quite natural, as the child from which it was taken presented by the shoulder and was delivered by podalic version. Cast No. 2 represents the head of the child whose stillbirth is described in this paper. A comparison of the two will show that the measurements of No. 2 exceed those of No. 1 in all the usual diameters by half or three quarters of an inch. The ridge across the head is caused by the fluid of the scalp tumour having been here forced up by pressure of the plaster; it is an artistic defect, but has the advantage of having cleared the occipital region of swelling, so as to show the

almost complete closure of the lambdoidal suture and posterior fontanelle. The contrast of these two heads is best seen by placing them side by side and looking perpendicularly down on them from above.

The position of the scalp tumour is conclusive of an error of diagnosis on the part of the midwife that the face was to the pubes. Moreover, I elicited from her that the head was born by the face sweeping the perinæum. There is a point of interest in the shape of this head in looking at it from behind. The vault of the cranium is twisted or screwed on the base, so that the measurement from the left mastoid process of the temporal bone to the posterior superior angle of the right parietal bone is much greater than a corresponding line drawn between the same points on the opposite sides of the head. The right lateral half of the vertex is on a higher plane than that of the left side. This lateral obliquity is probably to be explained by the severe pressure the left side of the vertex had to sustain against the rami of the left ischium and pubes in the rotation of the head; the corresponding area of the right side of the vertex being exposed to no obstacle, but having the open expanse of the pubic arch before it, became elongated, hence, by the flattening of the one side and the elongation of the other, this obliquity is accounted for.

The mother made a good recovery.

I have brought this case before the Society, not for the purpose of raising the question as to the desirability of using forceps frequently: I wish to avoid a discussion of this kind. The justifiable use of the forceps cannot, I believe, be settled by statistical reference. I do, however, feel strongly that whenever it is determined to use forceps the operator should be able to give good reasons why he is about to use them; that he should be able, plainly, to state the individual indications which point to the necessity of their use, so that they may not be applied on the mere arbitrary choice of the operator. I have called this a typical case for the use of forceps. Apart from the death

of the child, in which I may perhaps expose myself to the charge of being wise after the event, there were many evident indications of necessity—

(1.) Accidental discharge of the liquor amnii at the very beginning of labour, leading to a very long first stage (sixteen hours).

(2.) A woman, forty years old, who had had thirteen children at full term, mostly after very hard labours, circumstances which had enfeebled the uterine force.

(3.) Great fatness, especially of the abdominal walls, with a weakened and relaxed state of the abdominal muscles, thus leading to a weakness of the auxiliary forces of labour.

(4.) A large and hardly ossified head to be felt during labour—difficult to mould.

(5.) Three hours of slow progression in the second stage of labour in a woman who had had twelve living children.

It is scarcely to be doubted that if forceps had been used an hour before ergot had been injudiciously given the child would have been delivered alive, and the mother would have been spared four hours of severe suffering.

The two casts referred to in this paper are deposited in the Museum of the Obstetrical Society of London.

Dr. Heywood Smith wished to ask Dr. Roper whether the midwife had had impressed upon her that she had acted contrary to her instructions in administering ergot before the birth of the child.

Dr. Wiltshire said that, as no one rose to discuss Dr. Roper's paper, he would call attention to a condition of the fœtal head which he proposed to call "normal asymmetry," and which the first of Dr. Roper's casts illustrated. If the cast were examined it would be found that the right half of the frontal bone was a little in advance of its fellow, and it would be seen also that this condition affected the whole of the right side of the head, which was in a plane a little in advance of the left half of the head. He had been observing this for many years, and lately he had undertaken exact observations at St. Mary's Hospital. He found that in a considerable majority of cases the right was in advance of the left half of the head, and scarcely any head failed to show this asymmetry if a careful model were taken of it by a metallic

fillet. The asymmetry was also shown in the palate. It was not simply the result of compression during parturition, for the head of a fœtus delivered by Cæsarian section showed it, as would be seen in Dr. Budin's work, 'Sur la Tete de Fœtus au point de vue Obstetrique.' Dr. Roper's cast was taken from a child who presented by the feet, and whose head had not undergone long compression during delivery. He proposed to weigh the two halves of the fœtal brain, and determine whether there was any difference in them, such as Dr. Thurnam had shown to exist in the adult brain. He thought that this normal asymmetry might have some bearing upon the usual modes of presentation in head cases; in other words, on the mechanism of parturition. In reply to a question by Dr. Murray, respecting Dr. Wiltshire's observations on the colour of the eyes of the newly born, Dr. Wiltshire said that he had continued his observations, which fully confirmed his original statement that newly-born children have blue eyes. Soon after his paper was published in the 'Lancet' in 1871, Dr. William Ogle pointed out that the same observation had been made by Aristotle. He had also received communications from medical men practising amongst Negroes, who assured him that Negro children were born with blue eyes. The observation had important medico-legal bearings, as was shown in the celebrated Wicklow Peerage case. The fœtal blue was of a leaden hue, and change began to be observable at the end of six weeks after birth. He was inclined to believe that all animals were born with blue eyes.

Dr. Heywood Smith corroborated Dr. Wiltshire's observations, both as to the asymmetry of fœtal heads, and also as to infants' eyes being blue.

APRIL 3RD, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.

Present—50 Fellows and 3 visitors.

The minutes of the last meeting were read and confirmed.

Books were presented by Dr. L. D. Bulkley, Mr. Marcus Clarke, D. A. Wasseige, the Edinburgh Obstetrical Society, the "Société des Sciences Médicales de Lyons," and the Medical Society of Victoria.

The following gentlemen were admitted Fellows of the Society:—Mr. O. Taylor, L.S.A., Walter E. Husband, M.R.C.S., Frederick Moon, M.B., and Thomas Derry Jones, L.R.C.P. (Ed.); and John A. Lorimer, M.R.C.S. (Farnham), was declared admitted.

Harrison Braithwaite, F.R.C.S. (Ed.), John Edwin Brooks, L.R.C.P. (Ed.), Albert W. Leachman, M.D. (Petersfield), were elected Fellows of the Society, and the following gentlemen were proposed for election:—George Brown, M.R.C.S., Stacey S. Burn, M.R.C.S., and J. Lawrence Hamilton, L.R.C.P. (Ed.).

Dr. CORY showed a head said to have been ruptured by the use of the forceps. The mother had had three other children, all of whom were stillborn. The gentleman

who attended her in her present confinement seems to have used a hairpin for the purpose of rupturing the membrane, and as the head then made no advance, he sent to St. Thomas's Hospital for assistance. The resident accoucheur accordingly went and found a tumour, the size of a hen's egg, growing on the right side of the sacral prominence of the mother, and a laceration of the scalp of the child. He applied the forceps, which twice slipped, and the second time this occurred he noticed cerebral matter come away. He again applied the forceps and extracted the child, stillborn. The rupture of the child's head, as can be seen, was situated over the left side of the coronal suture; and it was this suture which had given way.

The probabilities were that the scalp was at first injured by the hairpin, and the rupture completed by the forceps drawing the head through the small space left by the encroachment of the tumour on the pelvic cavity. The mother did well.

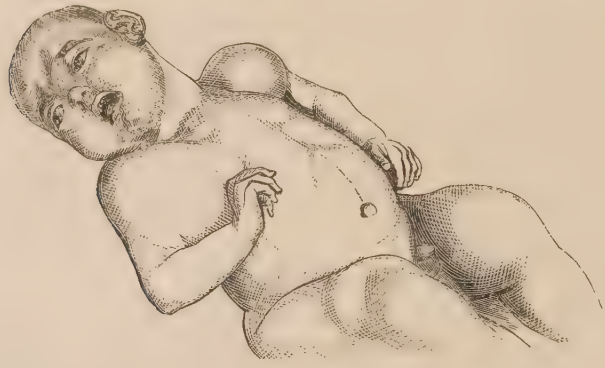
Dr. Galabin showed two cancerous polypi, together with microscopic sections to show their structure. Both grew from the cervix uteri, and were removed during pregnancy. Both were instances of what is considered a rare combination, that of myoma with cancer. The smaller, about an inch and three quarters in diameter, was removed at the fourth month of pregnancy, the patient having had severe metrorrhagia from the commencement of gestation, and being reduced to a very anæmic state. It was amputated by the galvanic cautery, after which there was no recurrence of hæmorrhage. Pregnancy went on to full term, and five months after delivery there was no obvious recurrence of cancer, though there appeared to be morbid thickening of the cervix. The microscopic structure was very peculiar. The bulk of the growth was a myoma, but it was covered by a cap-like layer of tissue, very obvious to the naked eye, from which a copious milky juice full of cells could be scraped on section. The superficial part of this consisted of masses of cells, bounded, except on the free surface, by a

regular layer of cylinder-shaped cells. The cell masses were continuous with the cells on the free surface, where there was no evident ulceration. These superficial cells were flattened, resisted carmine staining, but had no continuity with the normal squamous epithelium covering the neck of the tumour, which ended abruptly. The cell masses were separated by tracts of nucleated tissue, more friable even than the cell masses themselves, but having an intercellular substance, like ill-formed fibrous tissue and numerous thin-walled vessels. In the deeper layers these tracts merged into fibrous bands between columns of cells situated perpendicularly to the surface. This cancerous portion was separated by a sharp line of demarcation from the tissue beneath, but one isolated mass was observed beyond the boundary, having the alveolar structure of true carcinoma. Just beyond the boundary line was a layer of tissue of a character resembling myxoma, which deeper still merged into the myomatous portion.

The second polypus, measuring two inches and three-quarters by one inch and three quarters in diameter, was removed at the eighth month of pregnancy. The patient was reduced to an almost desperate state by hæmorrhage and uncontrollable vomiting, and the tumour was found to be soft and ulcerated, and by its size likely to interfere with delivery. Labour came on about twenty-four hours after its removal by the galvanic écraseur, but the vomiting ceased from the time of the operation, and the patient passed well through the puerperal state. She died about three months after from internal extension of the cancer, as was supposed, without any recurrence of local symptoms. The cancerous portions of the growth had in parts the structure of carcinoma, the alveoli being small and irregular. Distinct bird's-nest bodies, however, were seen in it, and its outlying part showed advancing columns like those of an epithelioma. Beyond the cancerous portion was a tract of nucleated tissue so extensive that some observers of the section had considered the growth to be a sarcoma. The more central part again had the structure of myoma.

Dr. Gervis exhibited a specimen of cystic disease of the fœtal kidney from a case which had occurred in the practice of Dr. Fletcher, of Earl Soham. Extreme difficulty was experienced in the delivery of the body of the fœtus, and ultimately it was found necessary to eviscerate. Dr. Gervis had on previous occasions exhibited specimens of hydrometra and hydronephrosis occurring in the fœtus as causes of difficult labour, but this was a specimen of a still rarer fœtal disease.

Dr. Wiltshire exhibited a photograph of an infant aged five months, who came under his notice at St. Mary's Hospital, with enormous enlargement of the shoulder-joints, hip-joints, and knee-joints. The swellings came on very rapidly, and fluctuation was distinct in them. The child was remarkably anæmic, and presented in his face and elsewhere signs of congenital syphilis.



The abscesses were tapped with the aspirator, and a large quantity of thin pus was withdrawn. The child, however, died soon after, and at the post-mortem examination the affected joints were found to be disorganized and the epiphyses separated. The liver was the seat of an abscess which was apparently due to the breaking down of a syphilitic gumma.

Dr. SQUIRE exhibited a specimen of cancer of the uterus, where carcinomatous degeneration had proceeded to its most extreme degree, without pain having ever been a marked symptom. The patient, a maiden lady, æt. 58 years, began to suffer two years ago from a coloured vaginal discharge; she was rather stout, but had not a healthy appearance; an unmarried sister had cancer of the breast at her age. Her health improved, and this one symptom disappeared for a time; its recurrence excited little attention, as she was feeling better. Six months later the discharge became more constant, and its true significance was ascertained; the uterus was not enlarged, the cervix was small and perfectly moveable. Sometimes there was slight hæmorrhage, requiring a few doses of ergot, at others only a little shreddy mucus appeared. Marked and progressive illness dates from last spring, when, besides general weakness, some febrile disturbance, with evening exacerbation, began. With the gradual loss of strength and of flesh it was noticed that the right leg was the weaker of the two, and that there was some pain along it, and in the right iliac region; there was some tenderness on pressure in the right hypogastric region. At this point, before the end of the year, a deep-seated small tumour could be indistinctly felt through the abdominal walls, but no vaginal tumour or induration could be detected; the body of the uterus was fuller and less moveable; the cervix was free, a little shortened, but not thickened. During the last three months no further examination was made; the discharge, less in quantity and not sanious, became offensive; phlebitis caused swelling in each leg alternately and disappeared. Vomiting, chiefly after meals, became a frequent symptom; the bowels acted easily.

Three weeks before death sudden depression occurred; this, with some diarrhœa and restlessness, required the use of opiates, hitherto unused. Latterly it was found that some fæcal matter escaped by the vagina; the fæces were passed involuntarily, but not always the urine, for almost ten days. The tumour exhibited, about three inches in

circumference, is all that remains of the uterus ; the cervix and cavity have disappeared ; the walls, infiltrated at some parts with moderately firm deposit, are at others softened and broken down. No secondary deposit was found post-mortem in the liver or other abdominal organs ; the peritoneum was smooth, there were no enlarged glands. In the pelvis a rounded tumour was traceable to the right of the middle line, by its smooth posterior surface into Douglas's pouch ; the anterior surface was loosely adherent to some folds of small intestines ; more to the left it was irregular and softened, easily breaking down at points where it was united to the adjacent tissues ; part of the descending colon was here implicated posteriorly ; anteriorly the bladder was free, behind it a cavity was reached filled with semi-solid fæces communicating with the vagina, from the upper part of which the remainder of the tumour was readily enucleated; no induration was felt around the rectum or in any other part of the pelvis ; the ovaries were small but not diseased.

Degeneration of this kind, limited to a single organ, almost to a single tissue, must differ widely from cancer as a general disease. The health suffers in the same way ; with the fever accompanying the destructive local process there is the same waste of flesh and of strength as in other diathetic diseases. If ever general symptoms would lead to the expectation of cancerous deposit occurring in other organs, and of finding evidence of generalised cancerous disease, it would be in a case running such a course as this, yet there is nothing of the kind. Cancer as a form of climacteric degeneration may probably differ from general cancer in being less likely to be hereditary.

The PRESIDENT, in remarking on the interest of this case, called attention to the fact that it was unusual to find cancer of the uterus without more considerable enlargement.

Dr. JOHN WILLIAMS showed a ruptured uterus for Mr. W. E. MARSHALL, of Colney Hatch.

The patient was taken in labour about 8 o'clock on the

evening of Thursday, Jan. 17th, 1878. The pains were irregular and passed off, then returned about 2 o'clock on Friday morning. On examination the head was found to present. The membranes ruptured on Saturday morning about 8 o'clock, but the pains did not appear to become severe or bearing down in character. The patient was in good spirits, but suffered occasionally from sickness after taking tea or gruel.

When attending to her on Sunday morning about 8 o'clock, she suddenly jumped up and exclaimed, "My bowels are coming from me;" and upon examination the bowels were found protruding from the vagina. The child could be felt high up.

About 12 o'clock the face and trunk began to swell, and by 2 o'clock the distension of the subcutaneous areolar tissue of the upper limbs, face, and trunk with air, was very great.

Dr. John Williams, who was sent for, found the breech presenting, and delivered the patient of a fœtus which had been dead some time. The placenta was adherent and removed by the hand; no hæmorrhage followed. While removing the placenta a laceration was felt in but not through the anterior wall. This was believed at the time to be in the vagina close to its insertion to the uterus. The patient died an hour after delivery.

On the following day a post-mortem examination was made. The body was well nourished; there was great emphysema of the neck, face, and trunk; the lungs were somewhat congested; the heart enlarged and fatty. The abdominal viscera were congested, and portions of the ileum and jejunum appeared as if they had been constricted, being more vascular. The uterus was contracted but flabby; the tissue around it was much distended with air. In the cervix was a tear of about an inch and a half in length surrounded by a sacculated pouch.

The PRESIDENT suggested that the uterus should be submitted to microscopical examination. Many cases of so-called spontaneous rupture of the uterus had been recorded, but we still

wanted information as to the histological characters of the organ in such cases.

Dr. Braxton Hicks said that he thought we must give up the idea inculcated by the text-books, that rupture of the uterus was due to excessive and violent action, with sudden pain and noise. In almost every case which he had seen the rupture was not accompanied by pain. He suggested that we had possibly nowadays eliminated the typical cases described in the text-books by our improved methods of delivery. However, he could hardly recall one case in which the old typical rupture had occurred, and he thought that in the cases which happened at the present time the doctor was seldom to be blamed.

TWO CASES OF REPAIR OF THE FEMALE BLADDER AND URETHRA.

By Lawson Tait, F.R.C.S.,

SURGEON TO THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN, ETC. ETC.

I have already laid before the Society the details of one case in which repeated attempts to remedy an apparently hopeless lesion of the bladder were at last rewarded by success, and I have now to narrate two cases in which the conditions were, if possible, worse, yet where cures have been accomplished by perseverance.

Sarah H—, æt. 21, came under my care at the Women's Hospital in April, 1877. The history she gave was that she obtained a ticket for the attendance of one of the midwives of the Birmingham Lying-in Charity, and was taken in her first labour on the evening of the first Sunday in March. The midwife was in attendance on her from the Tuesday morning till Friday at midday, she being in strong labour all the time; and this statement was confirmed by a relation who was with her and who had had children. She repeatedly requested that one of the honorary surgeons should be sent for, but the midwife declined, though the house of the patient was within easy distance of the residences of three of the surgeons to the institution. On the Sunday following her delivery she is stated to have been

very ill and to have become delirious, and she remained so for nearly a week. She did not leave her bed till the 14th of April. After labour she never passed voluntarily any urine, the whole of it dribbling away.

When I saw her on April, 30th, I found the vulva so swollen, excoriated, and encrusted with phosphates, that it was quite impossible to examine her without the administration of an anæsthetic. She was therefore placed under ether, and the following conditions were observed:—The vestibulum vaginæ was merely a mass of cicatricial tissue of almost cartilaginous hardness, and this extended up the posterior wall of the vagina for nearly two inches, and embraced the lateral walls of the passage for about half an inch further. On the anterior aspect everything seemed gone save the apex of the urethra, of which about three eighths of an inch were left. At the roof of the vagina a hard thick ridge ran across from side to side, and on the posterior surface of this the os uteri was discovered. In front of this ridge was a protrusion of mucous membrane, which was identified as the remains of the bladder by the fact that the two ureters were discovered upon it. The anterior edge of this protrusion was adherent to the rim of the pubis and the whole of the mucous area was not much larger than a five-shilling piece. Careful search on the posterior surface of the pubic arch did not reveal any evidence that the anterior wall of the bladder was left. Indeed, the most accurate description was given by a friend, to whom I showed the case, that it seemed like a physic bottle, the neck and bottom of which had been cut off and left, and the body removed. I submitted the case to a consultation of my colleagues, and they agreed with me that the condition was almost if not utterly hopeless, but that as no operative proceedings could by any possibility make the patient's state more wretched, they sanctioned my intention to try what could be done.

My idea was that if I could make anything in the shape of a tube out of the cicatricial tissue in the vaginal wall, I might then by releasing the ridge at each side bring it

and the uterus down, and by folding the remains of the bladder upon itself and fastening it to the new tube, I might at least make a receptacle for a small quantity of urine. My colleague Dr. Savage pointed out that even if this were successful it would not be probable that anything like a sphincter action could be assumed by such tissue as I had to deal with; but though I admitted the full force of this objection, I determined to make an effort to improve her, whilst she was wholly willing that I should do what I liked.

On May 15th, with the assistance of Dr. Savage, I made two almost parallel incisions, about two thirds of an inch apart, running in the axis of the symphysis pubis and equidistant from it, and then dissecting inwards from each incision, and making short transverse incisions at top and bottom of each flap. I lifted two flaps of tissue of some sort, about an inch long, and then joined them in the middle by fine silver sutures. I did not attempt even to look at them again till July 14th, when I found that whatever had united, and I do not think it was much, was now represented only by a small arch of tissue, about an eighth of an inch long, and under which a small probe could be passed. As this amounted to failure I determined to repeat my effort on a very much larger scale.

On July 18th I therefore made two similar incisions, an inch and a half apart and rather more than an inch long. With the aid of my staphyloraphy raspatories I lifted up two flaps consisting of everything I could raise from the bone and again united them in the middle, and I did not look at the parts again till September 19th. I then found that a canal three quarters of an inch in length and sufficient in diameter to allow a No. 6 catheter had been formed. I removed the stitches, and after waiting for a few days I proceeded to carry out my proposal. I first of all made a raw surface at each side of the ridge at its upper end, this surface having a crescentic form and extending over one fourth of the circumference of the passage on either side. I then made a deep incision at each end of the tense

ridge at the upper part of the vagina, cutting until I felt the whole mass, including the uterus, move when I drew upon it. The hæmorrhage was tolerably severe, but was easily controlled by cotton-wool plugs, so that this part of the operation, the only part which I dreaded, was much more easy than I anticipated. I then pared the edge of the ridge and fastened it down to the raw surface by passing sutures wherever I could find any tissue to hold them. I left, however, one corner, the right one of the square flap, unattached, so that at this point there was free exit for the urine. On October 11th I found that the whole of my proceedings had been successful, that the displaced flap had united in its new position, that my artificial urethra led into a bladder cavity, and that nothing now remained but to close the provisional orifice. This I did on Nov. 17th by merely paring the edges and putting in sutures. I placed a small cannula in the new urethra, and kept it there for twenty-four hours. When I removed it I found that the urine flowed freely through the new channel. She left the Hospital on Nov. 28th, and at that time there was no change for the better in her condition, and I almost feared that all my labour had been in vain. I still, however, had a hope that the cicatricial condition of the new floor of the bladder and the new urethra might so result as to enable her to retain some small quantity of water, and so be at least occasionally dry. She was readmitted on Jan. 1st, and then I found that the bladder did retain some water, but that it was running through one of the stitch-holes. On removing the stitches the tracks healed, and in a few days she began to give evidence of some control over the passage of the urine. The most remarkable fact is that the first indication was a sense of desire to pass the urine. Then it seems that, in answer to this call, she passed about half an ounce, and after passing it remained dry for about an hour. The quantity passed was slowly increased up to four ounces, and she remains quite dry from periods varying from half an hour to three hours. She now never wets the bed at all, but rises and passes water frequently, being awakened by

the desire to do so. The excoriations of the vulva have entirely disappeared, and the patient describes her feelings as being those almost of a new life.

In this case it is of course quite open to question that the anterior wall of the bladder was destroyed as well as the posterior, but my belief is that it had been, and this belief was shared by my colleagues in consultation. It is of course difficult to reconcile the appearance of sphincter action with an utter destruction of sphincter muscle. Yet there are, I think, two possible explanations of the discrepancy. The whole submucous tissue of the vagina is occupied by involuntary muscular fibre, and it is within the bounds of possibility that, under new conditions, some remnant of this in the flaps I lifted may have taken on a sphincter power. The other, and I think the more probable explanation, is that in the formation of the new urethra, I have, by some lucky accident, made some sort of vulva-shaped opening, which yields only upon a certain pressure, that pressure being provided by the contraction of the muscular tissue in the remainder of the bladder walls when over-distended. Perhaps a combination of the two explanations may be the true one. Whatever be the fact, however, the result is a very gratifying one for a case which seemed to be so hopelessly beyond the art of the surgeon.

Mrs. M. H—, when 27 years of age (Jan., 1862), was confined of her first and only child. She states that she was in labour for more than thirty hours, and was ultimately delivered by some instrumental interference. For nine weeks after her labour she was very ill, and describes what were probably large sloughs as coming away from her. After her recovery she was submitted to a variety of surgical proceedings, for the cure of what she was told was a tear in her bladder. None of these seem to have been of any avail, and she remained in her wretched condition for fifteen years. She was placed under my care in March, 1877, when I found the following state of matters :—From within an inch of the cervix uteri to within a quarter of an inch of

the meatus urinarius, there was a large, irregular opening, through which the anterior wall of the bladder protruded. At the upper part, and for about three quarters of an inch of its extent, it was only a quarter of an inch in width. It then suddenly expanded to a large opening, where the trigone and neck of the bladder should have been, and then it narrowed down into a channel formed by the destruction of the posterior wall of the urethra, at the bottom of which the remains of the tube were visible. The worst feature of the case was the large amount of tissue lost just where it was most wanted, at the neck of the bladder.

On March 17th, aided by my friends Drs. Bloxham and Compson, of Halesowen, I pared and stitched together the narrow part of the opening above. I also lifted two urethral flaps by incisions running parallel to the edges of the groove, and by paring the edges of them and turning them in I attempted to form the basis of a urethra. The first part of this operation succeeded perfectly, but the second wholly failed.

On April 6th I repeated my attempt on the urethra, and succeeded perfectly this time.

May 16th I performed an operation for the closure of the remainder of the aperture, which I find very difficult to make intelligible, but which I may perhaps best explain by saying that I made two large wedge-shaped flaps, the axes of which coincided with the circumference of the vagina. The free truncated ends coincided with the margins of the fistula, which were carefully pared, and the lateral margins of the flaps were formed by incisions which travelled round quite one fourth of the circumference of the vagina, the lower of each pair of incisions passing slightly downwards, and the upper pair passing somewhat upwards, so as to form the wedges. The incisions were made very deeply and the flaps were completely raised. They were then carefully joined at their apices and their lateral margins stitched down as well as possible, so as to ease the apices as completely as might be of all strain. At the upper part there was no difficulty about this, but at the lower end the

strain was considerable. At the outer end of the lower left-hand incision I fastened a drainage tube, and left this proceeding with some hope that it would be successful. To my regret it was not wholly so, for just at the neck of the bladder there remained an orifice about the size of a barley-corn. I waited for about two months till the union should be consolidated, and then made an effort to close it by application of the actual cautery. No good followed this, however, so at the end of August I repeated the flap operation on a smaller scale, passing a draining cannula into the bladder a short distance beyond the left-hand upper incision. This operation was perfectly successful. About a fortnight after it I removed the cannula and the stitches, and in a few days she began to pass small quantities of urine with voluntary effort. In three weeks this quantity increased to an ounce, and then it came that she never passed any without a feeling of desire to do so.

In October she reported herself as passing as much as seven ounces of water at a time, never passing any involuntarily unless agitated, never wetting the bed, and as requiring to rise only two or three times during the night.

To day (Feb. 7th, 1878) she has been to see me and states that she now passes eight and nine ounces of urine regularly, and is as well and as comfortable as she ever was in her life.

I must express my deep acknowledgments to Drs. Bloxham and Compson for their invaluable help in this case.

In accordance with the President's request, Mr. LAWSON TAIT then demonstrated on the black board the steps of the operations, adding that he had seen the first patient only a few days ago, and had found the shrinkage of the parts very considerable. The length of the urethra was not more than a quarter of an inch; but it still served to keep the patient dry. In reply to Dr. Aveling, he said that the drainage-tube used in the first operation was one of Chassaignac's coiled wires, and that in the three cases in which he had employed it he had not been troubled with the deposit upon it of phosphatic concretions.

Dr. AVELING had found that the concretions might be prevented by injecting twice a day a weak solution of nitric acid.

Dr. Cleveland inquired if it was necessary to leave the sutures so long in the wound. He asked the question from having watched a case of cleft palate, in which the wires were not removed till several weeks after the operation, and where, consequently, there was considerable ulceration, and, as he thought, unnecessary irritation produced by them.

Mr. Lawson Tait had never seen sutures do much harm by remaining in for long periods; but on this point he would appeal to Dr. Marion Sims, who had probably more experience on the subject than any English surgeon.

Dr. Marion Sims said that where there was plenty of tissue left, the operation for vesico-vaginal fistula was so easy that we scarcely thought of recording successful cases; but those of Mr. Lawson Tait fell in quite a different category, and might be looked upon as most exceptional. He had hitherto regarded those cases in which the neck of the bladder was destroyed as all but incurable; and only a fortnight ago he had reported unfavorably on such a case. Mr. Lawson Tait, however, had now laid down and followed out a new principle of action, and had invented a procedure which had never been tried before. As to the phosphatic deposits which had been mentioned, he believed that they never occurred except where the surface was denuded of epithelium. They might easily be cured by injecting a solution of nitrate of silver. The sutures, he believed, need never remain in longer than eight or nine days; otherwise they were apt to excite a degree of ulceration which made it necessary to remove them.

Dr. Heywood Smith asked Mr. Lawson Tait what method he preferred of introducing the sutures, whether a small curved needle carrying the wire held in needle holder and carried successively through each flap, or a handled needle having the eye near the point, or the tubular needle. He thought the communication of Mr. Tait most valuable as showing the importance of perseverance in such cases. He would refer to a case recently published of his own, which had been operated upon eighteen times at Guy's, St. Bartholomew's, Westminster, and, lastly, five times by Mr. Teevan, who had sent it under his care at the Hospital for Women, as Mr. Teevan was not able to readmit her into his hospital. Dr. Heywood Smith closed an opening between the neck of the bladder and the cervix uteri, and as the patient kept dry the case was sent out and reported cured. But she presented herself again as she had again become wet after jumping out of a train. On careful examination a small hole was found on the right aspect of the bladder hidden behind a crescentic cicatrix. An attempt was made to close this with the actual cautery, but failed. The opening was then closed in the ordinary way and the sutures secured with Aveling's coils, and as there was a pressure of beds the patient had to leave the

hospital two days after the operation. She had, however, presented herself a week after the operation quite dry, and Dr. H. Smith had sent her home to Wales with directions to a medical man how to remove the sutures in about ten days, so that this case was successful only after more than twenty operations.

Mr. Tait said that he did not attach importance to any particular kind of needle, but he liked the tubular needle very much indeed. Those usually employed made far too large holes, but he had had a special instrument of smaller size made for him in Paris. As a rule, however, he thought the best needle was that invented by the late Professor Simon, of Heidelberg, who was by far the most successful operator in these cases, and from whose teaching he first derived the feeling that no case ought to be regarded as entirely hopeless.

Dr. Murray said that, in justice to the inventor of the revolving needle, he must mention a case on which he had operated. The injury had resulted from the use of instruments during labour, and was very extensive. From the patient's statement the whole vagina and bladder must have formed one immense cloaca. In the process of cicatrisation the os uteri had become enclosed within the bladder, and could only be reached with the finger by dilating the opening in the bladder wall. There was not sufficient sound tissue in connection with it to form a flap, and one operation was unsuccessful. He subsequently used Dr. Aveling's needle and wire coils with a perfectly satisfactory result. The stitches were removed on the eighth day, and the patient now menstruates through the bladder.

A CASE OF RUPTURE OF THE UTERUS.

By James Hickinbotham, M.D., M.R.C.P. Edin.,
PHYSICIAN TO THE BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.

On the 16th of September last I was hurriedly summoned to a house, only a few doors from my own, to see Mrs. A. X—, who "had met with an accident." The patient, a thin, ill-nourished, strumous woman, æt. 32, then in the ninth month of her sixth pregnancy, was standing upon a chair to reach something from a shelf above her head, when the chair slipped and she fell heavily to the ground. Profuse hæmorrhage occurred instantly, and when I arrived a few minutes after the fall she was blanched and

pulseless, the floor of the room for a considerable distance around her being covered with blood.

Examination showed that the blood came from an opening in the posterior aspect of the uterine wall, which easily admitted two fingers, and through which I readily felt the edge of the placenta. This wound I at first mistook for the partially dilated mouth of the womb, but before my examination was finished I perceived the os undilated immediately behind the pubis, and at least an inch from the wound. I instantly pushed a soft sponge soaked in cold water tightly up to the uterus, gave ether and brandy, and sent for my transfusion instrument. When my assistant brought it I found to my disgust that the elastic ball had from disuse grown stiff, and although tenderly handled it cracked promptly. I therefore had to do without it, and trust to stimulants, so ether and brandy were thrown into the rectum, and after some anxious hours the patient rallied; a little milk was given, she was allowed to lie entirely undisturbed, and I gave her fifteen drops of Battley's sedative.

Twelve hours after I removed the sponge, and very cautiously examined; I found that although the wound gaped as though on the stretch, no loss of blood was occurring, but a little colourless fluid was slowly oozing through the opening; the condition of os had in no way altered. At 6 o'clock in the morning of the 17th she began to have labour pains, and an examination showed that the head of the child was presenting and greatly stretching the wound; the os admitted a finger and was remarkably soft and dilatable. I therefore hooked my finger into it, and by pulling upon its posterior edge was able to alter and direct the stress of the pains from the rupture to the natural opening, and at 10 o'clock she was delivered of a living though extremely feeble child.

On inspecting the placenta which followed almost immediately and without further hæmorrhage, I found about a sixth of its bulk flattened and solid, evidently compressed by the fœtal head.

Although fearfully exhausted she has gradually recovered, the only drawback having been a slight attack of phlebitis in both legs, and now (eleven weeks after the accident) is able to sit up for a short time each day. The lips and tongue are still so exsanguine as to be almost white.

The interest of the case seems to centre in the position and causation of the wound, as well as the remarkable coincidence of the unusual attachment of the placenta.

The explanation that occurs to me is, the uterus being fully distended, she fell with her abdomen across some part of the chair, and that the pressure ruptured the organ in that part which happened to be weakest, and which was in this instance a point opposite to that where the injury was received.

Is the substance of the womb more friable at the attachment of the after-birth?

The positive quantity of blood lost I never saw equalled, in a pretty large experience of both ante- and post-partum hæmorrhages, including several fatal ones. Nor did I ever see any person who eventually recovered so long absolutely pulseless at the wrist; as the hæmorrhage *did not* continue there was no reason to enter upon the question of using Liq. Ferri Perchlor.; I may say, in passing, that I have used it many times and have the greatest confidence in its efficiency and safety.

Note.—Had my transfusion instrument not failed me, I should have been perfectly certain that the rallying was due to its use, and have reckoned it triumphantly amongst the cases saved by transfusion of blood.

Dr. J. Braxton Hicks said that the case of Dr. Skinner reminded him of one which he had seen, in which the ovum was situated in a cavity in the wall of the uterus, which bulged externally the peritoneum, and internally into the cavity. The case was at first apparently one of simple abortion—the fœtus came away, but not the placenta. There being no hæmorrhage, the medical man thought it best not to interfere, as the os uteri was closed. She went on well for three or four days, when sudden collapse occurred, and the patient shortly died. It was found that the placenta still remained in the mural cavity, but

that a rupture had taken place through the peritoneal surface, rending a large sinus, and hence death from hæmorrhage. He had also seen a case something like the other case related, occurring from a fall downstairs, where the uterus was ruptured just above the insertion of the vagina, instead of just below as in the case mentioned. The uterus had drawn itself as it were off the fœtus, which became encysted in the peritoneal cavity.

Mr. Lawson Tait said that six weeks ago he had been hurriedly summoned to see a lady who was suffering from extensive distension of the abdomen, occurring immediately after labour. The uterus was found to be fixed, and as there had been no rise of temperature, it was concluded that this fixing was caused by exudation of blood. The breathing was so impeded by the abdominal distension that surgical interference became necessary; he tapped the abdomen and removed about three quarts of blood. The distension recurred, and yesterday (the 2nd instant) there was such a rapid increase in this distress that tapping again became necessary. The state of things appeared to him so hopeless that he proposed to open the abdomen, clear out the clots, and seek for what he suspected was the cause of the whole mischief, viz. a bleeding point in connection with a rupture of the uterus. He would ask those of the Fellows who had had the largest experience in this class of cases whether such a bold proceeding would have their sanction.

In answer to Dr. Clement Godson, Mr. Tait stated that the labour had presented no difficulty, and the symptoms of distension began immediately after it.

Dr. Squire remembered a case in which the rupture of an ovarian cyst led to such compression of the lungs and threatening collapse, that he found it necessary, with the help of Mr. Spencer Wells, to open the abdomen and to clear it of effused blood and matter. Tapping had afforded no relief. The ovarian tumour was removed in the operation, and the patient had a remarkably good recovery.

Dr. Malins remarked that the interest of these cases is as much clinical as it is pathological, both as regards the treatment and the variable extent of rupture compatible with the recovery of the patient. Thus, he had seen a patient die from a comparatively small rupture of the uterus within a few minutes of its occurrence. Dr. Blundell, on the other hand, recorded a case where in a head presentation rupture of the uterus occurred the child escaping into the abdominal cavity, in this he passed his hand through the opening as high as in the ensiform cartilage, turned the child, and delivered through the rent made. The woman ultimately got well. It would be an inquiry, he said, not destitute of advantage, to ascertain what were the conditions under which a profound lesion of the uterine walls might be followed by recovery, while at times a trivial wound of the same

parts would end in death. It was probable that the modern doctrines of septic infection would afford an explanation of many cases, and that the question of puerperal antiseptics would, therefore, receive more consideration. This had already been recognised at Berlin where antiseptic measures in puerperal cases had been extensively adopted, the results of which were alluded to in the 'British Medical Journal' of the previous week.

MAY 1st, 1878.

James H. Aveling, M.D., F.R.C.P., Vice-President, in the Chair.

Present—52 Fellows and 4 visitors.

Books were presented by Dr. H. W. Ackland, Mr. E. J. Adam, Dr. Barnes, Dr. H. Beigel, Mr. George Blane, Surgeon-Major H. Harris, and the New York Pathological Society.

George Brown, M.R.C.S., and Stacy S. Burn, M.R.C.S., were elected Fellows of the Society, and the following gentlemen were proposed for election: J. Dobree Buncombe, M.R.C.S. (Beaufort West), John A. Lycett, M.R.C.S. (Graiseley), John O'Neill, M.D. (Portobello), John A. Rawlings, M.R.C.P., Ed. (Swansea), and David Thomson, M.D. (Luton).

Dr. Barnes exhibited two specimens illustrating two forms or causes of intra-pelvic blood effusions. The first was a tubal gestation which had burst. The gestation was estimated at seven or eight weeks. The sac was within an inch of the left angle of the uterus. The patient had undergone a fatiguing journey, felt pain during the time, and died under symptoms of shock and collapse. About four pounds of clot and fluid blood were removed from the abdominal and pelvic cavities; no embryo could be found. The rent in the Fallopian tube was scarcely an inch long; it was remarkable how great and rapid a hæmorrhage could flow from so small a rent.

The cavity of the uterus showed a well-developed decidua, and the left ovary a very beautiful corpus luteum.

The other specimen was an illustration of a more rare description. A woman came into St. George's Hospital on March 5th, suffering from pelvic distress. Five days before admission she had suffered great pain after lifting a bedstead. Sickness followed and she had to take to bed. Some days after admission Dr. Barnes saw her. There was some tenderness in the pelvis, the uterus was strongly retroflected, the body much enlarged and locked under the sacral promontory. She became relieved, and on the 9th menstruation set in; on the cessation of this function on the 11th she had warm water injections, and three leeches were applied to the os uteri. On the 15th the uterus was reduced under anæsthesia without much difficulty, and a Hodge applied. Next day she seemed better, got up, but on the day following she complained of pain, the temperature rose to 100°, and the pessary was expelled whilst coughing. On the 18th she complained of general abdominal pain, and retched several times, pulse 132, temp. 100°. On the 19th all symptoms were worse, and she died rather suddenly on the 20th.

Autopsy.—Dark blood escaped from abdominal cavity. The source of the hæmorrhage was traced to the pelvis, where an imperfect cavity had been formed by the adhesion of the retroflected uterus to the omentum and intestine. This overflowed with blood and clot. It was lined with a firmly adherent fibrinous layer, enclosing numerous soft blood-clots. The uterus was two and a half times larger than its natural size and retroflected; bands of adhesion uniting the fundus to the posterior wall of Douglas' pouch. The uterine cavity was empty. Both Fallopian tubes were widened in the middle third. The right tube bore at its end a mass of dark blood-clot, held together by fibrinous bands. No ovum was found.

Dr. Barnes observed that here was an example of retroflexion of the uterus leading to fatal hæmorrhage. Under the retroflexion there was virtual closure of the os internum,

thence retrograde distension and dilatation of the cavity of the body of the uterus and of the tubes, with great hyperplasia of the uterine walls. When blood was poured into the uterine cavity, it excited expulsive effort, and the contents not able to escape by the cervical canal, it flowed back along the tubes into the peritoneal cavity. This process had been pointed out by Trousseau, and Dr. Barnes had described it in his work on 'Diseases of Women.' He was not clear as to the order of events in this case. Possibly inflammation began with the straining before admission, and it might have been increased by the reduction of the uterus, then menstruation setting in, there came the regurgitation of blood along the tubes and hæmorrhage into Douglas' pouch, at first encysted by the inflammatory adhesions, then bursting into the general peritoneal cavity. The history enforced the propriety of reducing the retroflected uterus.

Dr. John Williams said that the second specimen illustrated an important point in the natural history of retroflexion, and that was, that in this condition the reflux of blood was prevented by the pressure of the fibroid bands of the retro-uterine ligaments. This fact accounted for the great enlargement of the uterus in retroflexion as compared with anteflexion.

Dr. Hayes related a case which he thought contrasted well with the first case brought forward by Dr. Barnes. The patient, who was admitted into King's College Hospital on Saturday last, said she had miscarried of a six weeks' ovum about six weeks previously. She had a very rapid and feeble pulse, 140—150, and a temperature of 102°. The abdomen was distended and acutely tender, and she was evidently sinking. On vaginal examination of the uterus was found, fluid and a firm exudation mass occupied the posterior cul-de-sac. Patient died the same night, the temperature having reached 105°. The autopsy revealed general peritonitis in its first stage, together with the effusion of a large quantity of sanguineous fluid. The fundus of the uterus was covered with a large friable clot, and Douglas' space was occupied by an almost perfectly sound and very firm coagulum, of the size of a small cocoa nut encircled by a dense layer of membrane. A ruptured sac—to all appearance that of an extra-uterine fœtation—was found at the fimbriated end of the left Fallopian tube, while a corpus luteum in the left ovary was torn and partially extruded from its nest. The uterus was

three and a quarter inches in length, and its mucous lining was abnormally thickened and vascular. The case was interesting as being one in which the rupture of an extra-uterine fœtation sac had not been as usual followed by rapid death.

Dr. WILTSHIRE asked whether in Dr. Barnes' cases the effused blood had spread up along the spinal column? He asked the question because he saw reason to maintain that when hæmorrhage occurred free into the peritoneal cavity the blood obeyed the laws of hydrostatics, and the patient being usually soon in the recumbent position it tended to gravitate along the spinal column, and did not accumulate especially in the pelvis. A question of more immediate interest in reference to the first case was whether, as the patient died of internal hæmorrhage, it might have been possible to cut down upon, ligature, and remove the burst sac as in some cases of ovariotomy. This question was raised during the discussion on Mr. Jessop's case of successful operation for extra-uterine fœtation, and he thought that where a reasonably fair diagnosis was practicable it might be permissible to do it. The second case he thought was interesting, not only as a rare instance of intra-peritoneal hæmorrhage from regurgitation along the Fallopian tubes, but as showing post-mortem retroflexion of the uterus, a condition the very existence of which had been denied by some eminent pathologists.

Dr. HEYWOOD SMITH mentioned a case that occurred in his practice about eight years ago, where hæmatocele took place, and where, from the decidua being thrown off a few days subsequently, and from the history, there was undoubted tubal pregnancy. The mass blocked the posterior aspect of the pelvic cavity thrusting the uterus forwards. The patient was in danger of her life for several days, but the tumour was not punctured, and in two or three years afterwards all trace of the mischief had entirely disappeared.

Dr. CORY showed some microscopical sections of a uterus taken from a subject who died suddenly the same day as menstruation commenced.

These showed well the appearances described by Dr. John Williams. The mucous membrane was separated from below upwards, the part of it nearest to the cervix had already separated; immediately above this some remains were hanging in shreds, while yet further towards the fundus it was still intact.

Dr. Wiltshire inquired if pyrexia had been noticed. He observed that the blood was hyperinotic during menstruation, and that clot of the pulmonary suggested an increase in the amount of fibrine in the blood.

CASE OF FRACTURE OF CRANIUM IN A NEWBORN CHILD.

Dr. Poole exhibited the cranium, lungs, and heart of a child, with the following history.

On the 11th of April being called in to a servant girl, she stated that six hours previously, whilst in bed, labour came on, and the child on being expelled fell over the edge upon the bare boards. She was lying upon her right side with her back close to the edge. The navel string broke with the fall, and half an hour after, the after-birth came away, when she arose, and found the child dead. It had never made any sound, and she locked it up in her chest, and buried the placenta in the ashbin.

There were no marks of violence whatever about the child externally, but the bones of the head felt loose and crepitated freely. On opening the scalp, blood flowed forth, and there was a large clot over the left frontal and parietal bones, adhering pretty firmly to the scalp and to the pericranium. The left frontal had three fractures proceeding from the coronal suture, the left parietal had three, about an inch and a half long, from the sagittal, and the right parietal one long fracture, from the same suture. The pericranium was intact, beneath the calvarium was a quantity of fluid blood, but the brain substance was not much congested. The lungs gave evidence of respiration having been well established. The funis was twenty-four inches long, and was ruptured eighteen inches from the navel. The child was a nine months one, and well nourished, and death was plainly due to hæmorrhagic compression of the brain.

The bed was twenty six-inches from the floor, and the question of course was, would such a fall, broken by the resistence of the funis, cause the fractures? Dr. Poole had seen only two cases where the fœtus had been expelled in the erect position. In both the funis was ruptured close to the navel, and in both the cranium was apparently uninjured. As such accidents happen in the absence of an accoucheur it is difficult to estimate the greatness of the fall, which will depend upon the tallness of the woman and how much she stooped during the final pain. The funis also varies greatly in length. It may be assumed, however, that such falls are under twenty-six inches.

As there was no caput succedaneum, the labour was presumably rapid, and possibly violent uterine action may have propelled the fœtus from the passages, and precipitated it over the edge, though one would hardly expect this in a primipara. It is, moreover, possible that the fractures were produced primarily by the uterine contractions, and then aggravated by the concussion.

They were, however, so extensive that it was doubtful whether the fall had not been far more than the twenty-six inches, though extraneous evidence to that effect was entirely wanting.

CASE OF CÆSARIAN SECTION.

By J. Braxton Hicks, M.D., F.R.S., &c.,

OBSTETRIC PHYSICIAN AT GUY'S HOSPITAL; EXAMINER IN OBSTETRICS AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON, ETC.

Mrs. C. G— was admitted into Guy's Hospital, Feb. 8, 1878 (being about eight months advanced in her eleventh pregnancy) in consequence of her medical man, Mr. Barry, of Ramsgate, having detected malignant disease of the vagina seriously impeding the passage.

Shortly before the last confinement, which was two years

before, she was troubled with discharge of pus and blood from the bowels ; this has continued ever since, but latterly had become more troublesome, though without pain, or difficulty in defæcation.

She was emaciated, and weak, though the temperature was normal.

On examination the rectum was found to be surrounded by malignant deposit, ulceration having commenced in the front wall ; the recto-vaginal septum being consolidated into a mass nearly filling up the vagina, allowing the finger with difficulty to reach the os uteri. This mass was beginning to ulcerate on the vaginal surface, but it was very dense and unyielding, extending close up to the os uteri, but not actually involving it. A second investigation a few days later confirmed the opinion formed on the first, namely, that delivery was practically impossible *per vias naturales*, and it was arranged that it should be accomplished by the Cæsarian method, about a week or ten days before the full term.

However, on the 11th and 12th of February she became feverish, temperature 102°, pulse 130, with brown tongue and sensation of prostration ; and towards the afternoon of the latter day uterine action set in, which by the evening became confirmed labour pains. It was with much regret and anxiety that Dr. Hicks was thus obliged to operate in the face of so much feverishness, which he feared was of a toxæmic kind, setting up the premature labour.

Preparations having been made, it was begun about 8 p.m., Dr. Galabin, Messrs. Uhtoff and Mackeson, resident obstetric clerks, assisting.

To make sure of uterine action being perfect, a subcutaneous injection of ergotine was given.

The operation was performed at about 8 p.m. in the usual manner, excepting that the liquor amnii could not be previously drawn off, owing to the vaginal obstruction. The placenta was beneath the line of incision except at the lowest part, but there was very little bleeding ; the membranes were ruptured at the lower margin of placenta, and

the uterus acting powerfully, expelled the waters, so they did not flow into the abdominal cavity, while the extremities of the uterine wound were hooked by the fingers, so as to bring it and the abdominal wounds in apposition; the fœtus having been removed and the placenta detached, the finger was passed through the os uteri from within, to permit the outflow of blood, &c., but the malignant mass impeded, so that an assistant was directed to pass his two fingers up the vagina in such a way as to form a *conduit* for the blood's escape. A large catheter was also passed along the fingers within the os uteri to assist the flow by breaking up the coagula: this answered the purpose; and the bleeding naturally present, having ceased, assisted by pressure of sponges, the uterine wound was brought together by grasping the uterus, and by eight interrupted silk sutures passed through its wall including the peritoneal coat. The external wound was then closed, and the patient placed in bed; the catheter being left in the vagina and lower uterus to facilitate the breaking up of clots, and to allow of irrigation. The gaping of the uterine wound was very marked, and there seemed a tendency almost to inversion through the wound. The grasping just referred to overcame this and the edges of the wound fairly came together.

It should be added that the air of the apartment was well carbolized both before and during the operation.

About 10.30 the effects of the anæsthetic had passed off and she appeared comfortable with a pulse of 100 p.m. However, at midnight vomiting of a dark bilious fluid commenced, and continued for twelve hours, with great frequency and violence; during the early period sanguineous discharge came through the lower end of the external wound, but not afterwards.

Severe prostration soon appeared, the pulse rising to 140, and gradually up to 160 p.m., till she sank about twenty-four hours after the operation. Subcutaneous injections of morphia were given freely, and alcoholic injections per rectum. The upper vagina was washed out with iodine

injections frequently, to prevent the malignant ulcer and retained secretions from adding to the danger.

The *post-mortem* examination shewed a general blush of peritonitis, with a small quantity of grumous purulent fluid in the pelvic peritoneum. The whole of the uterine wound was gaping, every stitch having been torn away.

The child, it may be added, is doing well.

Remarks.—In this case the previous accession of irritative fever probably from the malignant disease itself, and the setting up of labour, no doubt detracted from the chances of immediate success of the operation as regards the mother; and this is an element to be taken into consideration in postponing the operation to an advanced stage of malignant disease. Again the fact of open ulceration and the partial closure of the vagina in this case, would form a continuous source of material for putrid absorption. The very severe vomiting, coupled with a vigorously acting uterus, doubtless caused the tearing away of the uterine stitches. It is possible that the subcutaneous dose of secale might have been dispensed with, but in this patient deficient uterine action was more likely to be present than overaction. The stitches were inserted close together in order that they might support each other.

It will be noticed that the operation was throughout one of necessity, both as to time, and mode of delivery. It will also be seen that Dr. Thomas's new operation of gastro-elytrotomy would not have been available here, because the incision in the upper vagina, would have intersected the malignant mass.

N.B.—The child was doing well when last heard of, namely, September of same year.

CASE OF PREGNANCY COMPLICATED WITH MALIGNANT GROWTHS IN THE VAGINA AND RECTUM.

By John B. Potter, M.D.
OBSTETRIC PHYSICIAN TO THE WESTMINSTER HOSPITAL.

E. C—, æt. 29, married, mother of three children, was admitted as an in-patient into the Westminster Hospital, on January 15th, 1876.

She stated, that for the last five months she had suffered from pains in the back and a sensation of bearing down. The catamenia had ceased during the last six months, and she was now by her own calculation in the fifth month of pregnancy. The pain at the lower part of the back was constant and aching rather than lancinating. There was a good deal of tenesmus and a muco-purulent discharge from the rectum, but none from the vagina. The bowels were very irritable, being moved at intervals of half an hour day and night—the motions were dysenteric in character, scanty, and containing little fæcal matter.

Examination, per vaginam, revealed the presence of a hard, lobulated mass occupying the posterior and upper portion of the canal. The growth extended to within two inches of the vulva. The cervix and os uteri were not implicated at all. The uterus was moveable, and could be felt externally extending nearly to the umbilicus. The vaginal examination caused pain and slight hæmorrhage. Per rectum a large fungating mass could be felt, evidently identical with that occupying the vagina. The bowel was here almost impervious, and all attempts to pass even a No. 12 gum elastic catheter failed. The obstruction extended upwards about five inches from the external sphincter.

Jan. 30th, a fortnight after admission.—She has passed no motion since she came into the hospital, nor according

to her own statement for a fortnight previously, in all one month. Enemata were returned immediately, nor could any be passed beyond a certain point. There was no distension of the cæcum, nor any symptom of intestinal accumulation. Complains a good deal of pain in the rectum, and has constant discharge of shreds of lymph, blood, and small quantities of fæcal matter. Appetite and general health fairly good. Fœtal heart and placental sound heard distinctly. From this date to March 4th her symptoms underwent no material change. The motions still continued sanious and frequent, but contained very little fæcal matter. The pain and tenesmus were severe and constant, but the general health remained good.

The treatment adopted thus far was to relieve pain by suppositories of morphia, belladonna plasters, and the injection of warm water, with a small quantity of castor oil, and Tr. Opii every second night. The bowels were kept as far as possible relieved by the administration of a teaspoonful of castor oil with five minims of Tr. Opii three times in the day. And this plan was apparently efficacious in preventing any great accumulation of fæces.

On the 4th of March the pain in the vagina became worse, and a steady, but at first slight, sanguineous discharge showed itself. This increased until the 11th, when it became so violent and persistent as to place the patient's life in danger; and she, being now about seven months and a half pregnant, it was decided to induce premature labour: this was effected by separating the membranes and leaving a gum elastic catheter in the uterus. This was done at 3 p.m., and by 11 p.m. labour had fairly commenced. At 11 a.m. the following morning the first stage of labour was completed. The presentation was vertex and footling. The delivery was completed by pulling down the feet, the head ultimately being brought through the narrowed space with the forceps. The child, perfectly healthy, was born alive and throve well. The mother made a good recovery from her confinement,

though her other symptoms remained unaltered, and she still suffered greatly from the constant tenesmus and discharge per anum. She urgently begged that some operation might be performed for her relief. Colotomy was done by my colleague, Mr. Macnamara, and the patient did well until the fifth day after the operation, when symptoms of peritonitis developed themselves, and proved fatal on the seventh day.

Unfortunately a post-mortem examination was not permitted by the friends.

Dr. Godson, in commenting on the fact that in Dr. Hicks's case the sutures which had been inserted into the uterus had been of no avail, referred to the plan successfully followed by Dr. Edmunds in his two cases of putting in no sutures at all, and asked Dr. Hicks whether he approved of this procedure, and if so, what special circumstances in his own case induced him to employ sutures? He also asked Dr. Potter whether in his case the child was still living, as his experience induced him to believe that though children were delivered alive in this way they generally succumbed in the first fortnight.

Dr. Heywood Smith asked why if stitches had been placed in the uterus they were not put deeper in Dr. Hicks's case? How soon after delivery was colotomy performed in Dr. Potter's case.

Dr. Murray asked Dr. Potter whether the mass which obstructed delivery in his case was hard or soft, and whether it was flattened or had disappeared after delivery. He thought it very gratifying to find that delivery could be secured by the natural outlet in such cases, notwithstanding all that had been stated here and elsewhere to the contrary.

Dr. Braxton Hicks stated, in reply to the various questions, that he had originally recommended that the uterine sutures should be passed through the peritoneum, and that one of them should be connected with the external wound, and he had half thought of following this plan in the present case. But the wound in the uterus was so very gaping, and the uterus was so very thick, that he thought it better to put in a number of sutures, as he believed was advocated by Mr. Spencer Wells. He thought it might be said that when a case did well it did not want sutures, and in the opposite event, sutures were of little use. He had in the present case put in the sutures through the uterine walls to a depth of from a quarter to half an inch. In conclusion he would remark that Dr. Potter's case was not parallel to his own, in which the os could not be reached with the finger, and the

examination set up so much irritative fever that any attempt to deliver the child by the natural outlet would have inevitably been followed by sloughing of the parts; the patient, moreover, was nearly at full term. The child, he might add, was doing very well.

Dr. Potter stated in reply that the child in his case had lived, to his knowledge, for three months after its birth, and it might, for aught that he knew, be alive now. Colotomy was performed in the second or third week after the patient's delivery. The growth was very little altered after delivery. With regard to the question of sutures, he had been present at Dr. Hicks' operation, and he thought that no one who saw the gaping condition of the uterus could have doubted as to the advisability of employing them.

ON MEMBRANOUS DYSMENORRHŒA.

By R. Cory, M.B.,

ASSISTANT OBSTETRIC PHYSICIAN TO ST. THOMAS'S HOSPITAL.

The following is a case of membranous dysmenorrhœa which strongly supports the view of Dr. Hausmann, in which he regards cases of this kind as due to an imperfect impregnation.

S. H—, æt. 40, was married in 1865, being then thirty years old. Her catamenia commenced at the age of fifteen. They were always regular though profuse, and never accompanied with a membrane until after marriage.

On the 23rd December, 1865, she had a miscarriage which she says was followed by inflammation of the womb, and that in consequence of this she kept her bed for more than a fortnight.

Subsequently she had two more miscarriages. These all occurred within the first two years of her married life, and were all early abortions, between the second and third months.

On April 7th, 1866, she attended as an out-patient at St. Bartholomew's Hospital, and on the hospital letter it is stated that she was then suffering from subinvolution and retroversion. Since this time until she came as an out-patient to St. Thomas's Hospital, in 1875, she almost invariably passed, at her menstrual period, a membrane. These membranes have on two or three occasions been examined, and they presented all the naked-eye and microscopical appearances of the mucous membrane of the uterus.

I regret that one of them has not been kept, for they were very perfect casts of the uterine cavity. There is accompanying this paper a small piece of one mounted as a microscopical specimen, and although it is not a good one, for it does not clearly show the uterine glands, yet it is perhaps worth exhibiting, being the only piece of the membrane which I have preserved.

As has been said before, the membrane almost invariably accompanied menstruation. It usually came away on the second day, and until it had passed the dysmenorrhœa was acute, the pain being of a forcing and intermittent character; after this menstruation continued for two or three days, sometimes longer, and was always profuse.

On two occasions, however, she remembered the membrane did not appear. On the first of these she had been staying in the country away from her husband for a month, and on the second she had been in hospital for the same time. She also volunteered the statement that when she went a day or two over her time the membranes seemed larger. While she was attending as an out-patient at St. Thomas's, which she did from September, 1875, to February, 1877, a tolerably accurate record of the dates on which menstruation commenced was kept for fourteen consecutive periods. The intervals of days from the commencement of one menstruation to the commencement of the next during this time were as follows:—28, 28, 25, 29, 27, 26, 25, 30, 31, 28, 26, 28, 27, 28.

These intervals are certainly very irregular, there being

as much as six days' difference between the greatest and least.

On January 26th, 1876, she was instructed for the first time to use an injection of a weak solution of carbolic acid immediately after connection. Her next menstruation occurred on the 9th of February, after an interval of twenty-seven days, and no membrane passed. She next menstruated on the 6th of March without a membrane appearing, the interval being twenty-six days. During this time she had been regularly using the carbolic acid injection. She, however, again menstruated on 31st of March, after an interval of only twenty-five days, and this time a membrane passed on the 3rd of April. I suppose after this she lost faith in the injections and consequently used them less regularly; however this may be, membranes again appeared at the menstrual periods, and did so until admitted into St. Thomas's Hospital on the 3rd of May, 1877, while still menstruating. This ceased on the 4th. On the 19th the flow again appeared, but this time without any membrane and ceased on the 25th.

A note taken on the 10th of May of the condition of the uterus is as follows: "Uterus much retroflexed, normal length, small mucous polypus at orifice of cervix." On the 27th iodine was applied to the interior of the uterus, and she left, being anxious to get home, on the 31st of May, 1877.

I saw no more of her until February of this year, when she brought a niece of hers up to see me. She then informed me that she had been living in the country apart from her husband for nine months, and during this time she had menstruated regularly, without any membrane appearing.

In connection with this case I take the opportunity of showing the uterus of a woman who died suddenly the morning menstruation commenced. When it was fresh shreds of membrane were distinctly seen separating from the lower portion of the uterus, the upper part of the mucous membrane being still intact. The microscopical

specimen shows this well. This condition has been so well described by Dr. John Williams, that I need not further detain the Society on this point.

I have brought these two cases together as the one helps to illustrate the other, and taken thus they are additional evidence tending to show that menstruation is due to an abortion of an unimpregnated ovum together with its nidus, the mucous membrane of the uterus.

The order of events before and during menstruation would seem to be—

1st. The arrival of an unimpregnated ovum into the uterus immediately or soon after a menstrual period.

2nd. The development of this ovum and its nidus, the mucous membrane of the uterus, up to a certain point.

3rd. The arrival at maturity of the next Graafian follicle, accompanied towards its completion by ovarian irritation, which is reflected to the uterus, causing uterine contractions.

4th. The abortion of the old ovum, together with its nidus, accompanied with a discharge of blood.

5th. The rupture of the Graafian follicle and the passage of the new ovum along the Fallopian tube, at which time impregnation, if it occur, probably takes place.

Dr. Aveling observed that the subject of membranous dysmenorrhœa had been before the profession for three or four years, but much more work was required before we could come to anything certain concerning it.

Dr. Godson showed, in connection with Dr. Cory's paper, a specimen of a decidual membrane, with a very small ovum upon it, and he remarked that had it not been carefully examined, the ovum would probably have escaped notice, and the membrane have been looked upon as dysmenorrhœal.

Dr. Galabin said that the facts of Dr. Cory's case appeared to establish the interpretation adopted by the author, namely, that the membrane thrown off in successive months was the product of conception repeatedly occurring. On this assumption it afforded interesting evidence as to the date in the menstrual cycle at which conception may occur. Since the period was never delayed more than two or three days overtime, conception must have occurred shortly after the preceding period, and the impregnated ovum have belonged to that period on each occa-

sion, since otherwise there would have been no time for the decidua to develope. The view had been gaining ground of late, which was supported by the researches of Dr. John Williams, namely, that the Graafian follicle commonly ruptures, and that conception usually occurs shortly before a period is due. But here we had a woman repeatedly conceiving soon after the end of a period. The very few positive anatomical facts recorded appeared to indicate that a Graafian follicle might rupture either before, during, or after menstruation.

Dr. John Williams thought there could be no doubt that the membrane exhibited by Dr. Cory was the decidua containing an impregnated ovum. The fact that the membrane was only passed when the woman was living with her husband favoured the view that it was a kind of abortion, and for this reason he objected to the case being quoted as one of membranous dysmenorrhœa. Numerous conditions were classed under this name, but many substances might be passed which were not decidual membrane, and he had known of one case where a tough layer of mucus was described as a membrane. He thought the name of membranous dysmenorrhœa ought not be given to any case in which the lining membrane of the uterus was not expelled. At the same time he felt that Dr. Cory's case, though not one of membranous dysmenorrhœa, would serve to throw some light upon the pathology of that disease. As to the sequence of events in connection with menstruation, he thought that the evidence which had been accumulated on this point showed that usually, though not always, impregnation took place shortly before a menstruation. The anatomical evidence in favour of this was very strong, and Reichert had published eighteen cases in which the ovum was discharged before the commencement of menstruation. At the same time he must admit that there was evidence to show that the ovum might be discharged both during and after a period. In connection with this point he would refer to Coste's case, for he thought that the conclusions drawn from it were erroneous. The subject of this case, a young girl, was drowned fifteen or sixteen days after the cessation of the menstrual flow, and a Graafian follicle was found considerably enlarged. Coste regarded this as a follicle which had failed to rupture during the last period, but it appeared to Dr. Williams that it was in reality the follicle which was preparing to rupture previous to the next period. But the strongest evidence in favour of his view was derived from the history of the Jews. According to the Mosaic law intercourse was forbidden during each period, which was reckoned as lasting five days, and for an additional space of eight days following the period, during which the woman was regarded as unclean. There were thus in all thirteen days of uncleanness, so that if the conditions of the Mosaic law were rigidly observed, impregnation could not take place till the ninth

or tenth day after the cessation of a period. He had made many inquiries of Jewesses on this point, and he found that those who were strict in their observances adhered to the thirteen days of uncleanness, while others abstained from intercourse for a week in all. He thought these facts were strongly in favour of the view that impregnation took place before a period. He admitted, however, that in some women the ovum might be discharged subsequently to menstruation. In conclusion, he would ask Dr. Cory what evidence he had to show that an unimpregnated ovum was capable of development, and what was the nature of that development?

Dr. Aveling said that he had some hesitation in accepting the view put forward in the paper. He thought that a hyperæmic condition leading to membranous dysmenorrhœa might have been caused by the irritation of sexual intercourse. As to the period at which the Graafian follicle ruptured, he had been led to believe that ovulation was a very irregular function, and he thought no hard-and-fast line could be drawn.

Dr. Potter dissented from the assertion that Jewesses were accurate in their calculations as to duration of pregnancy. In some cases he found them as much as a month out of their reckoning.

Dr. Cory, in reply to Dr. Williams's remarks upon the paper, said that there were reasons for thinking that the human ovum took some days in its passage along the Fallopian tubes to the uterus. This was known to be the case in some of the lower animals. In the fowl the ovum in its passage along the tube acquired its albumen. If, then, it was granted that some days might be occupied in the passage of the human ovum along the Fallopian tube to the uterus, the cases advanced by Dr. Williams were accounted for. Again, with regard to the argument derived from the Jews, this might be met on the supposition, which was generally granted, that the spermotozoa can remain living in the female generative organs some time before impregnation is effected by them.

JUNE 5TH, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.

Present—50 Fellows and 4 visitors.

Books were presented by Dr. M'Clintock, Dr. M. Ponte, Dr. G. Sirignano, Dr. Gaillard Thomas, Dr. C. West, Dr. Gautier, and the "Société Clinique" of Paris.

Fred. Stephen Alford, M.R.C.S., was admitted a Fellow of the Society, and A. W. Leachman, M.D. (Petersfield), was declared admitted.

The following gentlemen were elected Fellows of the Society :—J. Dobree Buncombe, M.R.C.S. (Beaufort West, Cape Colony), John A. Lycett, M.R.C.S. (Graiseley), John O'Neill, M.D. (Portobello), John A. Rawlings, M.R.C.P. Ed. (Swansea), and David Thomson, M.D. (Luton).

And the following gentlemen were proposed for election: —W. A. Caskie, M.B. (Largs), W. E. Dring, L.R.C.P. Ed. (Boughton), T. D. Harries, F.R.C.S. (Aberystwith), J. T. Hinton, M.R.C.S. (Croydon), and T. R. Judson, M.R.C.S. (Forest Hill).

Dr. HAYES exhibited the specimen from a case of which he had given brief particulars at the last meeting of the Society. The specimen consisted of the uterus and its appendages, enveloped in a large amount of blood-clot and false membrane. At the fimbriated extremity of one Fallopian tube

was a smooth-walled cyst, the rupture of which had, in Dr. Hayes's opinion, led to the symptoms with which the patient died. He must admit that the evidence as to this cyst being the product of an extra-uterine fœtation was not complete, for the most careful search had failed to discover any fœtus. The interesting point in the case was that death did not, as usual, follow immediately on the rupture of the cyst, but must, from the post-mortem appearances, have been delayed for some days.

In reply to Dr. John Williams, Dr. Hayes stated that a true corpus luteum was found in one of the ovaries.

A DESCRIPTION OF THE CONJOINED TWINS, MARIE-ROSA DROUIN.

By D. C. MacCallum, M.D., M.R.C.S. Eng., &c.

This remarkable specimen of the fusion in part of the bodies of two female children was brought to Montreal for exhibition during the month of April, 1878. It was exceedingly difficult to make a thorough examination of the children, as the mother was strongly opposed to having them handled or touched. By frequent visits, and by obtaining the consent of the mother to see the children whilst she was washing and dressing them, I succeeded not only in making out most of the important points relating to their union, but also in obtaining an excellent drawing, by Hawksett, of the appearances which they present anteriorly and posteriorly. The specimen belongs to St. Hilaire's class of *Monstres Doubles;* Famille—*Sysomiens;* Genre—*Psodyme;* to Playfair's division of *Dicephalous Monsters.*

The children lie in their mother's arms much as they are represented in the drawing, the two upper separated

Dr. Westmacott direxit.

West, Newman & Co. lith.

The sensation of hunger is not always felt at the same time, as very frequently one child sleeps whilst the other is being nursed. When one child cries and the other is tranquil, the abdomen on the side of the crying child contracts and expands, and the limb of that side is agitated, while the corresponding parts on the opposite side are at rest. There is slight movement of the lateral half of the abdomen on the side of the quiet child, but this is evidently communicated. Precisely the same phenomena are observed when either child forces during a motion.

From these observations, then, it would appear that the spinal, respiratory, circulatory, and digestive systems of these children are quite distinct. They have each a separate diaphragm, and the abdominal muscles on each side of the mesial line are supplied with blood by the vessels, and are under the control of the nervous system of the corresponding child. They have each a distinct stomach and an alimentary canal, which probably opens at a point close to the common anus. It would follow, also, that the accessory organs of the digestive system are distinct for each child. The two fissures behind are evidently the original clefts between the buttocks of each child, one buttock remaining in its integrity, whilst the other, in a rudimentary condition, is fused with that of the opposite child, forming the soft fleshy mass from the upper part of which the rudimentary limb projects.

These children are the products of a second gestation. They were born at St. Benoit, County of Two Mountains, on the 28th February, 1878. The mother, a fine healthy-looking woman, aged twenty-six years, states that she experienced unusual sensations in the womb during the period of gestation, and that towards its close the abdomen became so prominent, she was ashamed to be seen by her friends. The weight also greatly fatigued her, and the movements of the children were very distressing. During her labour she was attended by a midwife. It lasted seven hours, commencing at 1 a.m. and terminating at 8 a.m. One head and body were first born; this was

Dr Westmacotte dirext

West, Newman & Co.

shortly followed by the lower extremities, and immediately after the second body and head were expelled.

Dr. Herman showed a bicorned uterus and double vagina, taken from the body of a woman who had committed suicide. She had borne two children, and nothing had ever been noticed during life to lead to the supposition that there was anything peculiar about her genital organs.

MYXOMA OF BOTH OVARIES, ASSOCIATED WITH LEUKÆMIA.

Dr. Galabin showed a specimen of uterus and ovaries, with microscopic sections of each. The patient was twenty-one years old, had menstruated profusely since the age of fifteen, and, since her marriage, three years before, had had almost constant metrorrhagia. At her admission loss of blood had been so severe that the question of transfusion was for some time under consideration. Hæmorrhage was checked by a sponge tent, followed by intrauterine injections of hot water. The febrile condition, however, which existed at her admission, increased, and after ten days she died from suppurative peritonitis, pus being found in the Fallopian tubes and the sinuses near the cervix. Distinct leukæmia was also found to exist. The spleen weighed 12 oz., and there were leukæmic growths in the liver also. Both ovaries were enlarged to a length of about three inches, preserving their normal shape. On section they had a soft gelatinous appearance, which to the naked eye resembled acute inflammatory œdema. Microscopic sections, however, showed the struc-

ture to be that of myxoma, without any effusion of inflammatory cells. The firmer tissue towards the external surface had the character of sarcoma. The uterine mucous membrane was disintegrated in shreds. On microscopic section the cells of the mucous membrane in parts were found to be widely separated, as if by effusion of fluid, and amongst them were wavy fibrillæ, somewhat resembling those in the ovarian growth. There were many widely dilated vessels, and blood-corpuscles were effused amongst the epithelium of the glands. It might be a question whether there could be any pathological connection between the leukæmic growths, the growths in the ovaries, and this condition of the uterine mucous membrane.

Dr. Roper exhibited a cast of the head of a child born under face presentation, mento-anterior, showing the characteristic distortion of face and cranium which usually takes place in this presentation. The liq. amnii had been discharged nineteen hours. It was the mother's third child. The labour was a hard one. The head was easily delivered with forceps. Child was a female of large size, stillborn. (The cast is deposited in the museum of the Obstetrical Society.)

Dr. Champneys showed a uterus and neighbouring parts taken from the body of a woman, æt. 42, who died from the bursting of an aneurism of a small branch of the pulmonary artery within a vomica in the lung.

Before the removal of the uterus from the body it was seen to be in a state of decided retroflexion, which was maintained when it was removed. This state appears to be caused by a thickened band of tissue, which starting slightly above the level of the os internum, where it is about one third of an inch broad, runs downwards and ends in the right utero-rectal ligament, the right boundary of Douglas's pouch, which is decidedly thickened along its upper border, and is far better marked than the corresponding ligament

on the left. When suspended by the fundus the outline of the posterior wall of the uterus shows a concavity, over which the above-mentioned band is stretched as a chord. The size of the uterus as a whole, the development of the sinuses in its walls, and the appearance of its mucous membrane, led to the impression that the woman must have been recently delivered, and this was confirmed by the appearance of a well-marked corpus luteum in the right ovary.

Along the left wall of the vagina is seen a large ridge the size and shape of a well-developed nympha, but it lies within the vagina; its upper extremity gradually declines until it is lost on the posterior wall of the vagina, a quarter of an inch below the os externum, though still somewhat to the left of the middle line. It is possibly the septum of an originally double vagina. The right ovary, besides the corpus luteum above mentioned, has a small cyst, the size of a large apple-pip, hanging by a thin pedicle from its external extremity.

The left ovary is slightly larger than the right; a cyst occupies nearly the whole of its substance, in the wall of which two other smaller cysts are seen. Another cyst, the size of a large green pea, is seen in the situation of the parovarium, which is itself plainly seen. At the bottom of Douglas's pouch a secondary pouch is seen, large enough to receive and conceal the first joint of the middle finger, it ends conically below, its lower extremity extending an inch and a half below the level of the os externum, where it would be capable of forming a vaginal hernia.

The woman was the mother of twelve children; her last confinement was three years ago, since when she had not been pregnant. She had menstruated during the week in which she died.

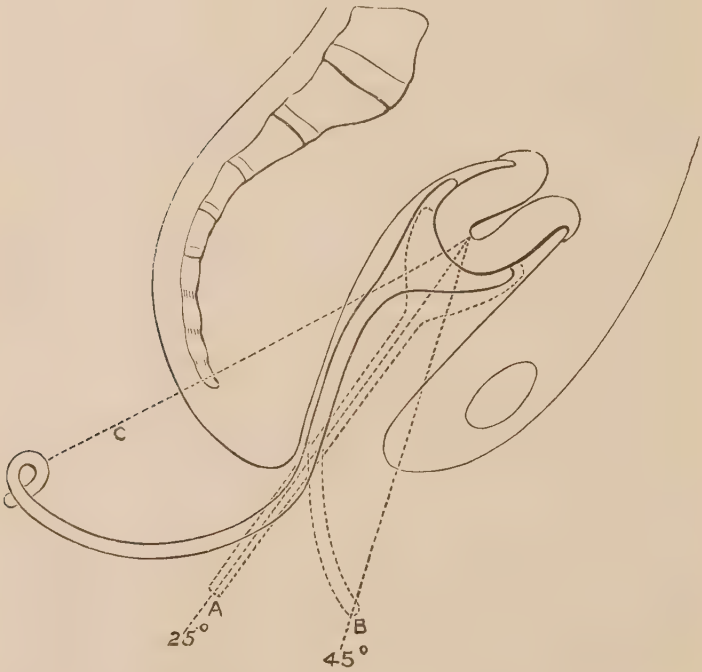
There was no history of dysmenorrhœa or other uterine complaint.

A REPOSITOR FOR INVERSION OF THE UTERUS.

By J. H. Aveling, M.D.

This instrument differs from others which have been used, inasmuch as it enables the operator to apply force to the fundus uteri directly in a line with the axis of the pelvic inlet. This is effected by giving the stem of the repositor a pelvi-perineal curve. The diagram, Fig. 1,

Fig. 1.



shows the lines in which force acts with different repositors. That with a pelvic curve (B) acts in a line diverging 45° from the axis of the pelvic inlet (C). A straight repositor (A)

acts in a line diverging 25°. The tendency of these two repositors is either to cause their cups to slip past, or press the fundus uteri laterally into the posterior vaginal pouch. The following case will illustrate the action of my repositor:

A lady was delivered of her third child, by forceps, on the 13th of February, 1877. The placenta was removed twenty minutes after the birth of the child. Violent flooding, sickness, and fever followed, with great sleeplessness. The patient remained very ill for five weeks, and was obliged to have both a day and a night nurse.

At this period it was suggested that the constant hæmorrhage might be due to inversion of the uterus, and an examination proved this supposition to be correct.

May 26th.—The patient came to be treated in London, and on June 2nd an attempt was made to replace the uterus by the hand while she was under chloroform. The effort was continued for twenty minutes, when the operator desisted, as the tissues showed a disposition to tear.

After this, attempts at reposition were made by means of various repositors. 1st. A ball pressary capable of being inflated after introduction. 2nd. A similar ball mounted on a stem having a pelvic curve. 3rd. A small cup, with an inflatable india-rubber receptacle round it, fixed to a stem, also having a pelvic curve. 4th. A large elastic ring pressary, which was doubtless only intended to be palliative in its action. The constant introduction and removal of these instruments caused great suffering and increased the hæmorrhage, which was destroying the health of the patient.

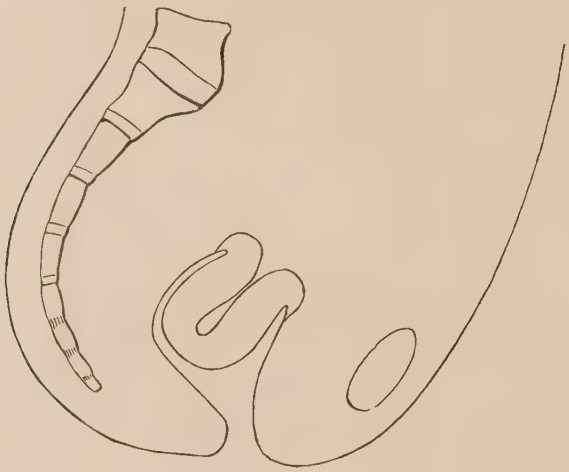
All these plans of treatment having failed the lady was handed over to an eminent obstetric surgeon to have the uterus removed. He concurred in the necessity of the operation and fixed the 20th of August to perform it.

Being unwilling to submit to this operation, she consulted two other obstetricians. One advised cold water vaginal injections, and attempts at reduction every ten days or so, with incision of the cervix uteri if necessary ; the other said both reduction and removal were dangerous, but

he would attempt the former if the patient did not mind the risk. The history of the case up to this point I had from the lady herself.

March 30th, 1878, the patient came under my care. I consented to attempt reposition, but advised delay until the next catamenial period was over. The position of the uterus, ascertained by careful measurements, was such as is represented in Fig. 2.

FIG. 2.



May 7th, 3 p.m.—I introduced, without causing much pain, a cup which fitted the fundus uteri, with a stem having a pelvi-perineal bend, and I believe this to be the first time a stem having this curve has been used for inversion of the uterus. Slight hæmorrhage followed its introduction. Four elastic rings passed over the spiral end of the stem were then brought up, two in front and two behind, and attached by tapes to four loops of a belt, which was kept up in its place by braces over the shoulders. By means of these elastic rings, pressure, which by experiments I calculated could never have exceeded two and a half pounds, was kept up more or less continuously during

the treatment. The patient was tolerably comfortable during the remainder of the day, but could only sleep at intervals at night.

May 8th, 10 a.m.—The uterus was found reinverted as far as the internal os. The cup was removed, unscrewed from the stem, and a smaller one substituted. The instrument was reintroduced and pressure exerted to an extent estimated at one and a half pounds. At noon the patient complained of much pain and a soothing draught was given. At 9.30 p.m. the pain was more severe, and the patient became sick and fainted. All pressure was taken off, but the instrument was retained during the night, which was passed comfortably.

May 9th, 9.30 a.m.—The repositor was taken out, the vagina syringed, and the bowels relieved by enema. At 10.30 a.m. the stem, which proved too short to continue the pressure now the uterus was so high, was replaced by a longer, and the instrument was again introduced, and the elastic rings were tightened so as to exert a pressure of about two pounds. At 11.30 a.m. severe pain made it necessary to reduce the pressure. A morphia suppository was passed into the rectum. At 1 p.m. the patient was more comfortable and bore pressure again to about the extent of a pound. The pain produced was always described as like labour pain. The vaginal temperature was 98·8°. Slight pressure was kept up all night, and she slept fairly well.

May 10th, 10.35 a.m.—The uterus was found completely reinverted, and this result had been obtained in sixty-eight hours. Reinversion had evidently taken place some hours before, for the cup of the repositor was inside the uterus, and the cervix so firmly contracted over it, that the patient had to be put under chloroform to remove it. This was done by drawing down the uterus, and tilting the cup so that its lip emerged first, the posterior part of the cervix being kept up by the tips of two fingers. The patient felt tender all day as after a confinement. The vaginal temperature was 99·8°.

May 12th—The patient slept well all night. There was no constitutional disturbance. She spent the day in writing and knitting. The length of the uterine cavity was $3\frac{2}{10}$ inches.

May 26th, a fortnight after, the cavity of the uterus measured $2\frac{3}{4}$ inches. There was no hæmorrhage or discharge of any kind.

The cup of the repositor is made of vulcanite. It is of the most useful size, but larger ones may be necessary at the beginning of the operation and smaller ones for its completion. The stem is of German silver, which may be bent to suit each case. The elastic rings used were $1\frac{3}{4}$ inches in circumference, and $\frac{4}{10}$ of an inch wide. The instrument is made by Messrs. Mayer and Meltzer.

In conclusion, I cannot resist stating my conviction that cases must be very rare in which the obstacles to reinversion of the uterus are so insuperable as to render amputation necessary, and so serious a mutilation warrantable.

The PRESIDENT congratulated Dr. Aveling on the success of his case, and said that he felt disposed to subscribe to what he had said as to the possibility of all, or almost all, such cases being returned.

THE CURVES OF MIDWIFERY FORCEPS—THEIR ORIGIN AND USES.

By J. H. AVELING, M.D.

No instrument has undergone such multiform changes as the midwifery forceps. Nearly every obstetrician of note has suggested alterations or additions, which have been tested by time and experience. The result has been that many innovations have vanished, whilst others of real value have survived to reach greater perfectibility. Of all the changes which this instrument has undergone, none are

of more interest to Englishmen than its curves, for all of them have had their origin in this country.

In the present paper it is not intended to consider the minor curves of midwifery forceps, such as those on the face and at the tips of the blades, intended to facilitate introduction or prehension; nor those of the shanks and handles for affording a more secure grasp. Four only, which may be looked upon as fundamental, will be submitted to your attention; and these will be noticed according to the order of their invention, in their historical, anatomical and mechanical aspects.

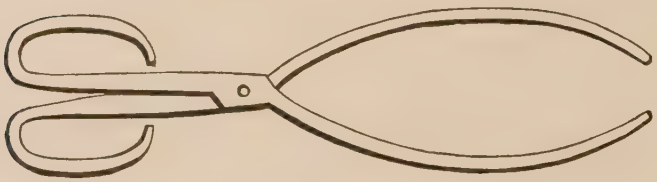
1. *The head-curve.*

(*a.*) *Historical considerations.*—Although the midwifery forceps may be seen looming through the shades of distant ages, history does not present the instrument to us in a substantial and practical form until the time of Dr. Peter Chamberlen. To him all nations now accord the credit of having invented forceps, with fenestrated and separable blades, for extracting a living child. He was the grandson of William Chamberlen (Chambrelein) and Genevieve Vingnon, French Protestant refugees, who fled from Paris and landed at Southampton in 1569. William and Genevieve had two sons of the same Christian name, Peter the elder, and Peter the younger, who both practised in London as Surgeons. Dr. Peter Chamberlen, the inventor of the forceps, was the son of Peter the younger and Sara de Laune.

As is well known, his original instruments are now in the possession of the Royal Medical and Chirurgical Society of London. There does not seem to be much likelihood of the exact date of their invention being ascertained. We have, however, some interesting evidence in a document addressed to the Archbishop of Canterbury by the College of Physicians, concerning a proposal of Dr. Peter Chamberlen to instruct the London midwives. In this paper the College opposes his project, and says:—"But for adding sufficiency to them (the midwives) by the

Doctours instruction, he is not otherwise able to instruct them than any other, the meanest Fellow of our College, *unless he understands it by the use of iron instruments.*" The date of this document is *circa* 1640, and there can be little reason to doubt that the "iron instruments" mentioned referred to his forceps. The most perfect of his instruments is one locked by a pivot. The head curve of this has a diameter of eleven inches. It is seven inches in length with a fenestrum five inches long. Between their apices, when the blades are united, is a space of one inch, and their greatest divergence is three inches. It will be observed, that the head-curve of Chamberlen's forceps and the reciprocal positions of the blades are almost identical with the popular models of the present day (Fig. 1).

FIG. 1.*



(*b.*) *Anatomical conditions.*—The pelvic conditions which affect the head-curve may be reduced to very few. The normal pelvic cavity varies from four to five inches in diameter. When this is reduced below three inches the case is not suitable for forceps. It may be roughly estimated that the obstetrician has ordinarily to deal with an irregularly curved tube, partly rigid and partly elastic, of an average diameter of four and a half inches, and about four inches long.

The fœtal head, according to the way in which it is seized by the blades, varies from three and a half to four and a half inches in diameter. It is elastic in proportion to the amount of its ossification, and may be reduced by

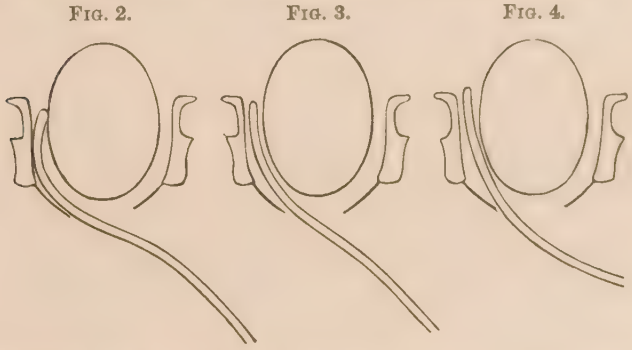
* All instruments and diagrams in this paper are represented one quarter their size.

compression a quarter, or even half an inch, without destroying the life of the child.

(*c.*) *Mechanical requirements.*—The use of midwifery forceps is accompanied by so many variable conditions, that it is impossible to treat with scientific accuracy the application, direction, and intensity of the forces employed. The fœtal head varies so much in its dimensions, shape, and elasticity, the pelvis in its planes, curves, and calibre, and the operator's hand in its size, skill, and strength, that it becomes impractible to have forceps made suitable for every contingency. We must therefore content ourselves with instruments constructed as nearly as possible to meet average conditions and requirements. These requirements may be considered under the headings, Introduction, Prehension, Compression, and Traction.

a. *Introduction.*—The head-curve must be such as will permit the blades to pass between the fœtal head and the walls of the parturient passage without difficulty or danger. A blade cannot be easily introduced if its curve be too abrupt or open.

In Figs. 2, 3, and 4 the extreme and medium head-curves



of forceps are given in the positions they would occupy during introduction. In Fig. 2 the curve is the arc of a circle of five inches in diameter. In Fig. 3 it is of nine inches and in Fig. 4 of fourteen inches. A glance at these diagrams shows which of the three curves renders

introduction most easy. With the five-inch curve the operation must be both difficult and dangerous. With the nine-inch curve introduction may be readily effected in whatever position the head may be; but with the fourteen-inch curve, passing the blade would be almost impossible when the head was pressing on the perineum, although with the head higher it is much better than the five-inch head-curve.

It is fortunate that the nine-inch curve happens to be most suitable for introduction as it also meets other mechanical requirements.

β. *Prehension.*—After the introduction of the blade the next important requirement is that its curve shall be such as will enable it to grasp the head in the best possible manner. Prehension may be active or passive. The active may be remittent or continuous. The passive may be pelvic or instrumental. Active prehension is when the blades are brought together by manual or mechanical means. Passive prehension is when the blades are held together by the pelvic walls (pelvic), or are maintained parallel at a set distance by mechanical arrangements (instrumental). The principal object of all forms of prehension is to retain the head of the fœtus within the grasp of the blades during traction. This, in fact, is all that passive prehension can accomplish. Active prehension may be carried beyond mere retention, and be employed to effect reduction of the fœtal head. Fortunately the curve suitable for prehension is also equally good for compression. In choosing the best curve for prehension we must select one which presses evenly upon a large surface of the head. The efficiency of its retaining power, and the safety of its employment in compression, depend upon the extent of the areas upon which the blades press. Figs. 5, 6, and 7 show the extent of contact which the three head-curves already mentioned permit during active prehension. The five-inch curve Figs. 5 and 8, has the same effect, in both active and passive prehension. It permits only of slight contact at two points above and below the transverse

diameter of the head. The objection to this mode of prehension is obvious, for the tendency must be to indent the fœtal skull and produce dangerous lesions. The black transverse bands represent the extent and direction of the prehensile force resulting from a five-inch head-curve.

Fig. 5. Fig. 6. Fig. 7.

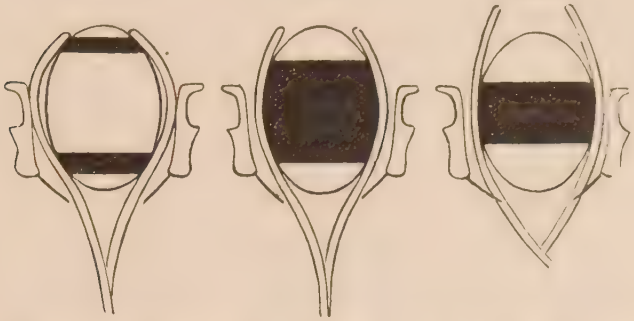
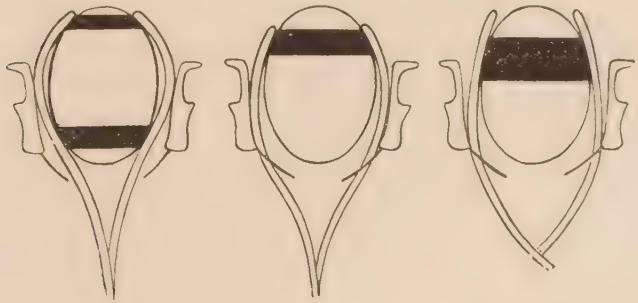


Fig. 6 represents the grasp which a nine-inch curve gives, and the black band shows the area and direction of its prehension. The same are also seen in Fig. 7 in which the head-curve is fourteen inches. It will be observed that the prehensile area presented by the nine-inch curve is the largest and consequently the safest and best.

Fig. 8. Fig. 9. Fig. 10.

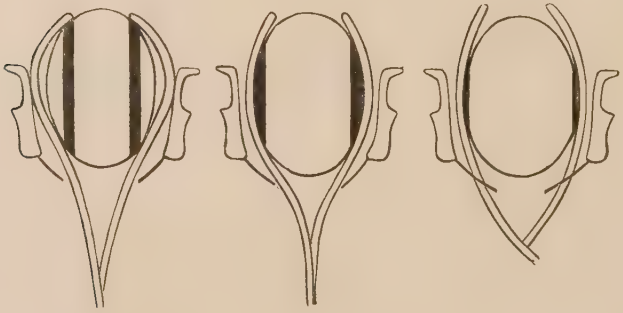


Figs. 8, 9, and 10 represent passive pelvic prehension with the same three head-curves. The five-inch curve is,

as has already been stated, the same as in active prehension. With a nine-inch curve, the blades having separated until they are arrested by the pelvis, grasp by their apices a limited area of the head represented in Fig. 9 by the black band. The objections to this form of prehension are that the head is liable to be indented, the parturient canal unnecessarily compressed, and the external parts unduly dilated by the shanks of the instrument.

Fig. 10 shows pelvic prehension with a fourteen-inch head-curve. It is evident that even this curve gives sufficient grasp to enable traction to be used, but the external soft parts of the mother must suffer great distension. In passive instrumental prehension the same objections, although in a minor degree, present themselves.

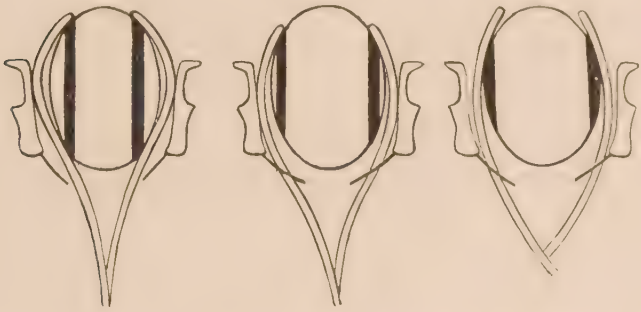
γ. *Traction.*—During active prehension the distal and proximal halves of the blades have the same action upon the head, one antagonizing the other and causing the the greatest diameter of the part seized to remain between the most widely separated portions of the blades. When, however, the head-curve is used in traction these relations cease, the proximal half becoming inactive and the distal active. To insure safe and efficient traction, it is necessary that the head-curve should afford a large retentive



area. In Figs. 11, 12, and 13 the black bands show the extent and position of the retentive areas and the direc-

tion in which forces thus applied act when head-curves of five, nine, and fourteen inches are used. The five-inch curve (Fig. 11) gives an efficient hold, but of a dangerous character, from its liability to indent the skull; the nine-inch (Fig. 12) grants a good retention area with pressure equally distributed. The fourteen-inch (Fig. 13) gives very small retaining power, and the blades can only be prevented slipping by approximating the blades with great force. These diagrams refer to active prehension. The retentive areas in passive pelvic prehension are very different. They are indicated by the black bands in Figs. 14, 15, and 16. The five-inch curve presents the same

Fig. 14. Fig. 15. Fig. 16.



objections as in prehension. The nine-inch assumes the objectionable qualities of the five-inch, and the fourteen-inch, although dangerous for the mother, has the fewest disadvantages as far as the fœtal head is concerned.

The best curve which can be given to the blades to render them safe and effectively retentive is that which coincides most nearly with the curve of the fœtal head. The nine-inch head-curve as far as is practicable fulfils this requirement. It may therefore be advantageously adopted for introduction, prehension and traction.

2. *The Pelvic Curve.*

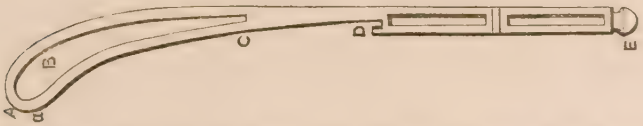
(*a*) *Historical considerations.*—The invention of the pelvic curve has for many years been attributed to Levret or Smellie, but the merit really belongs to neither. The originator of it was Benjamin Pugh, surgeon at Chelmsford in Essex. In 1754 he published 'A treatise of Midwifery chiefly with regard to the Operation, with several improvements in that Art. To which is added some Cases and Descriptions, with Plates of several new Instruments, both in Midwifery and Surgery,' In his Preface he says, "I shall be as particular as possible in the description and use of all the instruments, both in Midwifery and Surgery (which are my own invention). . . . The curved forceps I invented upwards of fourteen years ago, made me by a man of Mr. Archer's, cutler, now living in Chelmsford. The preference between them and the common straight forceps in every respect is great." Further on, p. 75, he says, "I doubt not but every operator will be sensible of this when he has seen my forceps, which are adapted in such manner to the make of the passage, that they can with ease be introduced into the body of the womb." At p. 77, he adds, "If the head is detained above the brim of the pelvis, or but a small part of it advanced, . . . the curve forceps will answer; for with their help in these cases, and with turning where the strength of the woman would permit, I have never opened one head for upwards of fourteen years."

If Pugh's statements are to be believed he was not only the inventor of the pelvic curve but the first to apply forceps to the fœtal head above the brim of the pelvis. What reasons have we for believing his statements? We have evidence that he possessed considerable mechanical ability. Like Dr. Peter Chamberlen his ingenuity did not show itself only in improving the midwifery forceps. He was the inventor of several new instruments, and evidently had the talent to originate such an improvement as the pelvic curve. But he does more than merely state that he

invented his forceps in 1740. He gives the name and address of the man who made his first instrument, giving his contemporaries the power of verifying the fact; and he says, at the end of his book, where his instruments are made and where the originals may be seen. What more could he have done? There were no medical societies nor medical papers at that time and publishing was very expensive. He tells us that four years before his book was printed he attempted to publish it by subscription.[1] We have his own statement that he was the inventor of the pelvic curve. We have evidence that he had the capability of inventing it, and we have testimony that he used all the means for substantiating his claim which could be reasonably expected from a country surgeon at that period.

Is Pugh to be deprived of his merit because he failed to publish his invention before Levret and Smellie? If so, Chamberlen's claim must be relinquished, for he not only did not publish his discovery, but did his best to keep it a secret. It would be unfair to judge the proceedings of inventors of two centuries ago by the rules accepted now. The date of publication is at the present time a fair method of deciding the relative claims of inventors as to priority. In the cases of Chamberlen and Pugh it would not be just. We are, therefore, it would appear, forced to the conclusion that Benjamin Pugh invented, had made, and used forceps with the pelvic curve in 1740, seven years before the date which French writers assign to Levret's invention. Pugh gives a drawing of his forceps (Fig. 17), and thus describes

FIG. 17.



[1] From this statement Dr. McClintock, who ably supports Pugh's claim as inventor of the pelvic curve, suggests that it was invented in 1736, but this is a mistake, for in the preface, where the statement occurs, the author says he invented his curved forceps "upwards of fourteen years ago."

it:—"A, B, C, D, E, my large curve forceps; the length from A to E is fourteen inches, the breadth of the bows from outside to outside in the widest part, which is near the top, is one inch and three quarters. A string being strained from A to C, at B, which is near the middle of the bow, ought to be one inch and a half from the string to the outside edge of the bow (which shows the concave part or proper curve inwards); and a string strained from C to A upon the upward edge of the bow at B, should be three quarters of an inch, which shows the proper side curve, or upwards, which adapts them to the make of the passage, and shows the great preference between them and the common straight forceps both in introducing and extracting." A crotchet forceps and a small forceps are also described and figured. The latter will be noticed again.

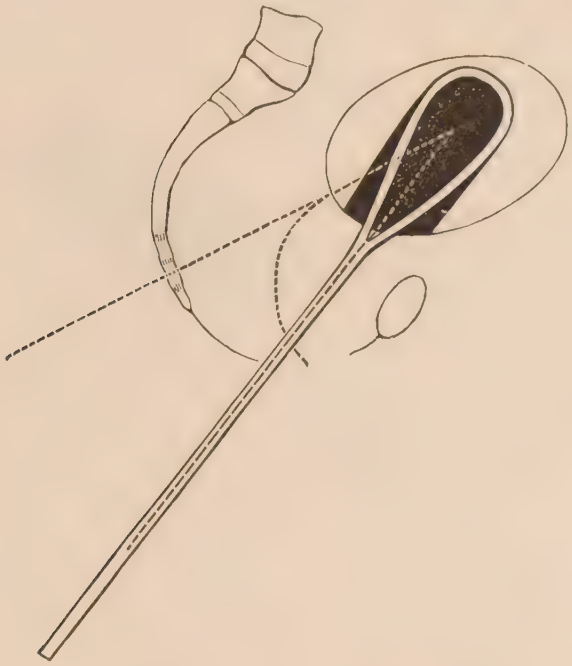
(*b.*) *Anatomical conditions.*—It has already been stated that, in using forceps, we have to deal with a canal about four and a half inches in diameter and about four inches long. In connection with the pelvic curve we have now to remember that it is curved in an antero-posterior direction, which curve varies in accordance with the way in which it is estimated. If we take the mathematical axis of the pelvic cavity, we have a parabolic curve very unsuitable for imitation in constructing the blades of forceps; but if we content ourselves with the classical axis or curve of Carus, we find it to be the arc of a circle of about nine inches in diameter, and a curve most convenient for the pelvic curve.

(*c.*) *Mechanical requirements.*

a. Introduction.—As Pugh first pointed out, this curve facilitates introduction. With the pelvic curve the blades of forceps glide along between the fœtal head and the parturient canal much more readily than when their form does not correspond with the axis of the pelvis. Without this curve the blade passes with its side as well as its point in advance. The result is, that the curved blade progresses in a track of two inches, while the straight blade moves along a path two and a half inches in breadth.

β. *Prehension.*—With straight forceps it is impossible to seize the head in a line corresponding with the axis of the brim. This may be seen in fig. 18, where the straight

Fig. 18.

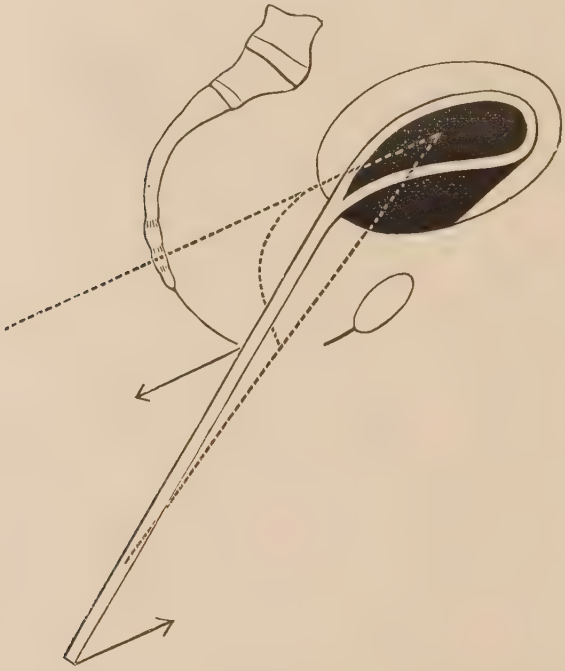


blades are represented in the best prehensile position in which it is possible to place them. The disadvantages of this diagonal prehension are removed by the pelvic curve, Fig. 19. By its means the blades may be made to seize the head before it has entered the pelvic cavity, in a line with the axis of the brim, an important advantage, as will presently appear.

When the prehension is remittent, the prehensile area of blades having the pelvic curve varies as the head advances. The altered relations of the blades and head, early A and late B in labour, are shown in fig. 20. This

change does not take place in continuous prehension, nor when force is applied by two hands in the directions indicated by the arrows in fig. 19, nor with forceps having the perineal and handle curves.

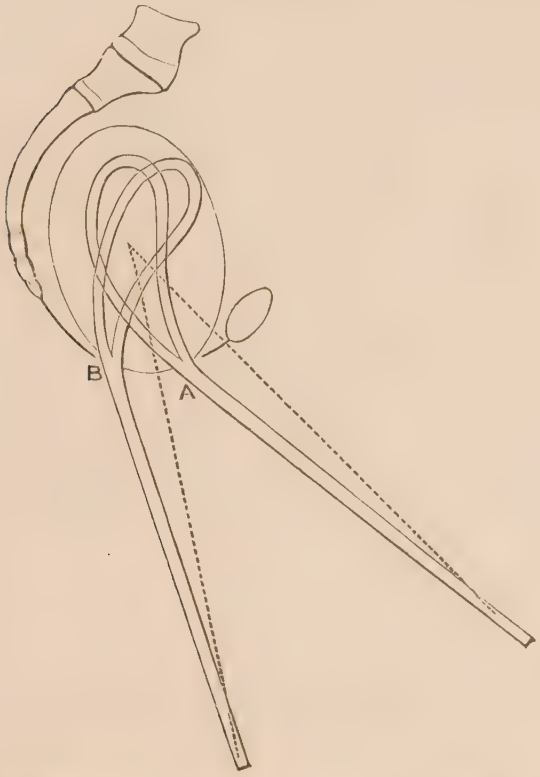
Fig. 19.



γ. *Traction.*—The pelvic curve undoubtedly favours introduction and prehension, but it may or may not be advantageous in traction according to the manner in which the force is applied. If the handles of forceps be grasped and traction exerted directly by them, the pelvic curve causes the instrument to have a worse tractile power than the straight forceps possesses; for with the pelvic curve the line of traction and the axis of the brim form an angle of 30°, whereas with the straight forceps this angle is one of 23° (Figures 18, 19). Every degree of divergence

of the line of traction from the axis of the pelvis in which the child's head may be situated must necessarily result

Fig. 20.



in loss and misapplication of power. When traction is made by the handles alone the straight forceps draws the head less upon the pubic bones than forceps having the pelvic curve. To overcome this difficulty, pelvic curve forceps must be used with two hands acting in opposite directions, as indicated by arrows in fig. 19.

3. *The Perineal Curve.*

(*a.*) *Historical considerations.*—Obstetricians in their attempts to draw the fœtal head in a line with the axis of the brim, found that the shanks of their forceps pressed unduly upon the perineum. To remedy this inconvenience Dr. Robert Wallace Johnson set himself to work. In 1769 he published 'A new System of Midwifery founded on Practical Observations,' the whole illustrated with copper plates. In this work, after giving a slight historical sketch of the forceps, and saying that he had seen Pugh's forceps at Mr. Cargill's in Lombard Street, and thought them "preferable to any," he writes as follows of his own:—"It appears evident that here, as in every other art and science, one improvement naturally leads to another. That I may not therefore seem to assume too much to myself, I shall now proceed to lay before my readers those hints which suggested to me what I take to be a still greater improvement." Having done this he thus describes his invention, Fig. 21:—"An

Fig. 21.

inverted curve should be made towards the joints whereby the perineum may be saved from injury, the extracting force rightly conducted, and the handles, at the same time, kept from pressing uneasily on the inferior and anterior parts of the pubes." This is the first mention we have of the perineal curve. Some writers have attributed the invention of it to Pugh, but unjustly, for, although his short forceps has a reflex curve, it was clearly the result of accident. The pelvic curve in his instrument is carried

along the shanks, and the reflex curve is simply the result of rounding the pelvic curve into the handle. Pugh did not know the value of the perineal curve, or he would have had his long forceps constructed with it, for in the high operation it is more particularly required.

The forceps drawn by Johnson in his work is a short forceps, but he correctly states the advantages of the perineal curve when he says that by it the perineum may be saved from injury and the force rightly conducted.

Like Chamberlen and Pugh, Johnson was a man of great inventive genius. He made models in wood of the many instruments he invented, and in some cases gave them the finishing touches.

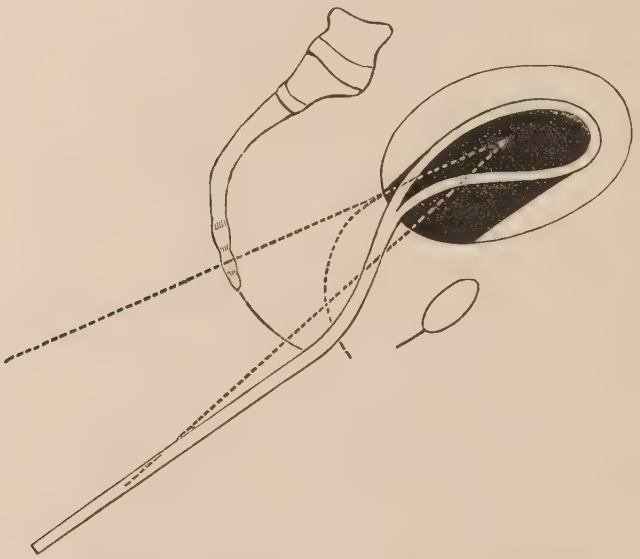
(*b.*) *Anatomical conditions.*—The great objection to straight forceps has always been, that the perineum would not allow the handles of the instrument to be passed sufficiently back to permit efficient prehension and traction. We have seen that these objections obtain even with the pelvic curve forceps, which, although it generally affords efficient prehension, does not allow traction to be made in a line with the axis of the brim. The perineum stretches across the posterior half of the pelvic outlet, and occludes the space which the shanks of forceps should occupy when traction is exerted upon the distant head. This obstacle, although it will yield to a certain extent, cannot be removed. It therefore becomes necessary to construct forceps so that bruising and laceration of the perineum may be avoided.

(*c.*) *Mechanical requirements*—The influence of the perineal curve in introduction and prehension is not very great, but what it has, acts in facilitating these operations. In cases where the pelvic curve does not allow the blades to pass sufficiently forward to seize the head, the perineal curve obviates the difficulty.

a. Traction.—It is chiefly in the direction of the force employed during traction that the advantage of the perineal curve is found. In fig. 22 the improved line of traction which this curve permits may be seen. This

line it will be observed much more nearly approximates the axis of the brim, than when straight or pelvic curve

Fig. 22.



forceps are used. In fact, it now only diverges from it to the extent of 19°. The advantages of the perineal curve have been only partially appreciated. It has, however, not been entirely neglected, for it has had admirers and patrons in all countries. Many modifications by obstetricians have been published by Van der Laar, Young, Evans, Mulder, Conquest, Hermann, &c. When the perineum is distended by the fœtal head it is very satisfactory to observe how the perineal curve removes the shanks of the forceps from the tense tissues and relieves the operator from the fear of their being lacerated.

4. *The Handle-curve.*

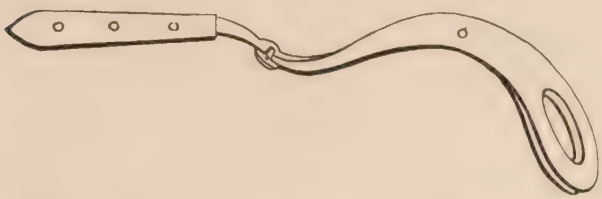
a. Historical considerations.—Obstetricians soon discovered that the addition of the pelvic and perineal curves

did not meet every requirement. No instrument yet invented enabled the operator to exert traction in the required line, when the head was high in the pelvis. Van der Laar in 1777, fig. 23, and T. Hermann in 1844,

Fig. 23.

fig. 24, endeavoured to overcome this difficulty by drawing

Fig. 24.



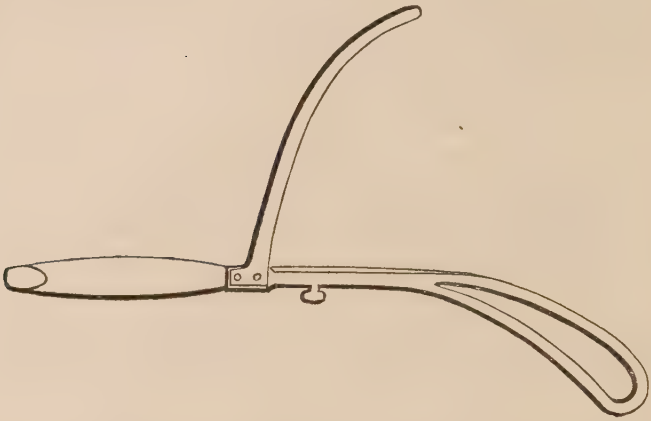
directly from the blades, very much in the same way as is now recommended by Chassagny and Tarnier. Hubert, in 1860, fig. 25, tried another plan. He first bent the

Fig. 25.

handles of his forceps at right angles; and in 1866, fig. 26, fixed a bar at right angles to the shanks.

On the 4th of March, 1868, I had the honour of presenting to the Fellows of this Society forceps, the handles

Fig. 26.

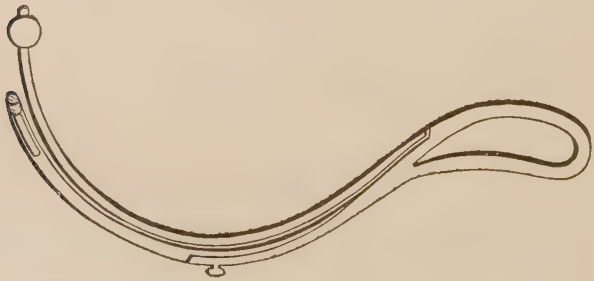


of which were curved backward. This instrument was, I believe, the first in which the handle curve had been adopted. Morales in 1871, fig. 27, carried on the perineal

Fig. 27.

curve, and bent the handles of his forceps in a line with their blades; and Tarnier, in 1877, fig. 28, invented his

Fig. 28.



ingenious forceps, which has the same sigmoid form as my own, and which is undoubtedly theoretically excellent, but practically far too complicated to come into general use.

b. Mechanical requirements.—The pelvic and perineal curves having been invented, curving the handle seems to be an irresistible and logical sequence. It is demanded mechanically and æsthetically, and its accomplishment satisfies both hand and eye.

a. Introduction.—In passing the blades the curved handles are less in the way of the operator than straight ones. The curved handles also do not come in contact with the legs of the patient during the first stage of introduction.

β. Prehension.—The prehensile area first occupied, even when prehension is remittent, is very slightly quitted when forceps having the handles curved is used. This cannot be said of any form of forceps in which provision of some sort is not made to enable the operator to make traction in the axis of the brim.

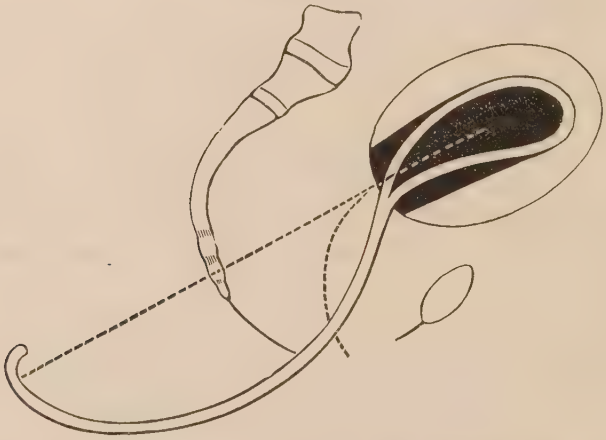
γ. Compression.—Undue compression is avoided by curving the handles, for when they are used, compression and traction are two separate actions of the hand. Traction is exerted at the hooked ends of the handles, compression at their smooth sides. To effect greater traction with straight handles a larger amount of compression becomes necessary, or the handles slip from the grasp. This remark of course only holds true of straight handled forceps which have no shank rings or handle projections.

δ. Traction—The grasp which curved handles afford the operator is remarkable. He can with one hand, in nearly every case, exercise sufficient force to deliver the child. Should additional force be required, it can be obtained by passing over the hooked ends of the handles a cloth and drawing by it with the other hand. But the great advantage of the curved handles is, that they enable the operator to use traction power in the right direction.

By their aid he can draw the fœtal head in a line with

the axis of the brim, and thus reduce the necessary compression and traction to the minimum of intensity. Fig. 29.

Fig. 29.



During the exit of the child, when its head is sweeping over the perineum, the curved handles come less in the way of the legs of the patient. She is supposed to be lying upon her left side with her knees well drawn up; the position certainly most suitable when the head is high, and one which may be advantageously maintained until the head is delivered.

The forceps, fig. 30, which are now in the hands of the

Fig. 30.

Fellows, are my attempt to carry out the principles of the handle curve. I have used this instrument and short forceps constructed on the same plan frequently; and,

although the model is doubtless capable of improvement, I have been much satisfied with its easy application, its efficient prehension, and, above all, with its direct traction power.

THE REVOLUTIONS OF THE FŒTAL HEAD IN PASSING THROUGH A BRIM CONTRACTED ONLY IN THE CONJUGATE DIAMETER.—LABORATORY NOTE.

By J. Matthews Duncan, M.D.

The mechanism of the passage of the head through a brim contracted only in the antero-posterior diameter has been the subject of much investigation, which has greatly increased our knowledge and practical usefulness in cases which are not rare, and which are generally known as cases of simple flat, or narrow pelvis, or of flat and rickety pelvis. My present object is to show how, in one limited respect, the head passes, basing my demonstration chiefly on experiments contrived so as to resemble actual cases. Objection may, no doubt, be made, that the experimental passage is not a sufficiently good imitation of the natural passage; and to this I can only respond that, in the meantime, and so long as no good reason is given for discrediting the experiments, I hold them as giving valuable information which may be held as true of the passage in actual cases.

The single point to which in this note I direct attention is that of the revolutions of the head as it passes the conjugate, giving rise to motions resembling right or left lateral flexion. In other words, I describe only the movements of the head in a coronal plane. And here I may be allowed to interpolate the remark that, in the experiments, there was observed a want of uniformity of behaviour in regard to cranial flexion, and extension, while

passing, or in movements in a sagittal cranial plane; but uniformity of behaviour so far as concerned the points described in this note,—that is, movements in a coronal cranial plane.

The movements have been described as internal axial, or on a fronto-occipital axis; and as lateral flexions or modifications of Naegèle obliquity. But both such descriptions are erroneous; for movement on an internal axis does not imply advance or change of position of the mass as a whole, nor does lateral flexion. The axial or flexional movements here described by me are merely a part and consequence of revolving around a centre outside the body moving. There is, in these revolutions, only resemblance to internal axial or to flexional movement. The rotation of the head in the second stage of natural labour is not necessarily anything more than an internal axial movement; and the same is true of the production of Roederer obliquity. Revolutionary movements, such as those to be now described, or on a distant or external axis, are observed in the passage of the head through the vulvar opening, revolving or wheeling around the symphysis in both natural labour and in head-last cases; also in the spontaneous expulsion of Douglas, where the wheeling is at first upon the brim of the pelvis; and revolutions are observed in other circumstances.

The experiments were made with fresh, mature, stillborn fœtuses and wooden models of pelvic brims contracted to $3\frac{1}{2}$, 3, and $2\frac{1}{2}$ inches in the conjugate diameter only. Four fœtuses were used, and with each several experiments were made, using successively a smaller and still smaller brim. The experiments were uniform in results and therefore still further experiments were considered uncalled for. Nor is it considered necessary or desirable to give at length all the details of the experiments, because one point alone is to be described.

The experiments were all managed as if footling, weights being attached to a limb to draw through the head arrested in the conjugate diameter of the brim. Strictly, then, the

experiments illustrate only delivery in contracted pelvis when the head comes last; but, before the note is concluded, I shall show that it is highly probable that a similar or converse mechanism is true of head-first cases.

In conducting the experiments, I had sometimes the assistance of Drs. Godson and Champneys, or of Messrs. Husband, Burn, and Bathe. To make the movements of the advancing head more easily observed, I inserted a rod of above two feet in length into the skull at the point of the posterior angle of the great fontenelle, as far as to insure its keeping its place with some security. The indicating free point of this rod showed, by the great range of its movement, the small movement of the head itself; but the movement of the head itself could be seen and appreciated by an attentive observer without the aid of the long rod.

The heads were all placed in the brims in the first position, or with the occiput looking to the left side of the pelvis, and so that a bitemporal diameter was caught between the sacral promontory and the pubic bones.

When traction was applied through the spine to the obstructed head, the first result was revolution around the symphysis, producing a movement resembling right lateral flexion. This result was scarcely observable in the slightly contracted brim, more distinct in the higher degrees of contraction. It was the result of slight advance of the right side of the head, the sagittal suture making some approximation to the sacral promontory, and the base of the skull, almost certainly descending posteriorly or on its side next the promontory, and coming nearer to the lower part of the symphysis. The side of the head situated posteriorly in the pelvis made notable progress, which was scarcely observable in the side of the head placed anteriorly or adjoining the pubic bones.

After this advance of the right, or posteriorly situated side of the head, and slighter advance of the left, or anteriorly situated side of the head, there began a movement in the opposite direction which continued till the obstruct-

ing brim was passed. During this second movement, the point of the indicating rod moved steadily to the child's left, or anteriorly as regards the pelvis ; the head moved as in left lateral flexion ; the sagittal suture came to be nearer the pubic bones. The left, or anteriorly situated side of the head, advanced comparatively rapidly, while the right, or posteriorly situated side of the head, made very slow progressive movement. During this progress, the head was wheeling around the sacral promontory, the centre of movement being a point somewhere within the spinal column in the region of the sacro-vertebral articulation ; and, of course, the distant left side of the head moved more rapidly than the right side, which was very much nearer the centre of motion. In the second revolution movement the head wheeled around the sacral promontory.

After the experiments, the ordinary furrow, or a more or less spoon-shaped depression of the parietal bone in the temporal region, where the promontory indented it, was more or less distinctly marked. This depression is well accounted for by the mechanism just described. In order to allow the right, or posteriorly situated side of the base of the skull, which forms the lower edge of the spoon, to pass the brim with little or no indentation, that right side dips down in advance of the other ; and revolution around the symphysis, or a movement like right lateral flexion to a slight extent, takes place. The hollow of the spoon is now occupied by the promontory, the indentation is produced, advance of the whole head having taken place to permit this. Lastly, the vault of the cranium has to pass the brim, and, unlike the base of the skull, its left side, or that placed anteriorly in the pelvis, passes first, leaving the posteriorly placed edge of the vault to come last, and with little or no depression or indentation by the sacral promontory, and hence projecting to form the upper cranial edge of the spoon. This passage of the vault through the brim is effected by revolution around the promontory.

In short, the head coming last, through a contracted conjugate, has first its vault tilted to the side which lies posteriorly quoad the pelvis, in order to allow the rigid base of the skull to pass the obstruction. The side of the cranial base lying posteriorly passes first. The base of the skull being passed, and the promontory now indenting the temporal fossa, the head wheels or revolves around a point in or near the base of the sacrum, this motion having as its result the passing of the vault of the cranium with its anteriorly placed part advancing first behind the symphysis pubis.

The mechanism producing these revolutions I cannot exactly describe. Probably it is complicated. They are effected under continued powerful uniform spinal traction, and must arise under stringent and powerfully acting conditions; for they are to a considerable degree produced in antagonism to a part of the traction force which as a whole induces them, and which in our experiment was acting uniformly, in a uniform direction, at right angles to the plane of the brim. It is evident that the structure of the head is as potential in their production as the shape of the brim, for such revolutions would never occur if the cranium were a mass of uniform composition and mouldability. The base of the skull and its vault appear to be the parts whose passage leads to the modification of its course, which would otherwise be direct.

The disappearance of the ear felt behind the symphysis in the course of the earlier revolution in a head-first case, has been held as evidence of internal axial movement or wheeling on the fronto-occipital diameter. This explanation is not satisfactory and not necessary, because the revolution of the head around the symphysis, or an external axis, accounts for it. Besides, it is at least very difficult to imagine a mechanism for such an internal axial revolution at this stage of labour.

I am not aware of any description of the mechanism of head-last cases passing through a contracted brim, except by Litzmann and by Goodell; and I cannot but point out

the very great difficulty of making observations satisfactorily. Litzmann[1] gives an account which is not precise, but indicates a revolution around the symphysis pubis. Goodell,[2] on the other hand, in remarkable accordance with my observations, describes first a canting of the base of the skull over the edge of the promontory and then a revolution around the promontory.

Every one who has studied the mechanism of labour must have been struck with the remarkable analogies in the steps of the process in different presentations. These analogies are in no two cases more strong or mutually illustrative than in the passage of the head in natural head-first and head-last cases. We therefore turn from the preceding account of the mechanism of head-last cases in contracted pelvis to the mechanism of head-first cases, with the expectation of mutually illustrative analogies; and their actual discovery is corroborative evidence of the accuracy of the descriptions.

This leads us to make a limited literary periscope of the views expressed as to the mechanism in head-first cases; and, while it will be observed that there is considerable

[1] Volkmann's 'Sammlung,' No. 74, s. 561. "The mechanism (says Litzmann) of its passage through the pelvis depends essentially on the contrasted position of the chin and of the hindhead. If the chin is already deeper in the pelvis, or if it is dragged down, while the hindhead and the greater part of the globe of the skull are still above the pelvic inlet, then advance successively the region of the bitemporal and of the biparietal diameters through the conjugate, so, however, that, in correspondence with the more forward direction of traction, the posteriorly placed side of the skull gains advance, and, while the squamous suture of the anteriorly placed parietal moves downwards behind the symphysis, the parietal applied to the posterior pelvic wall slides over the promontory in a line proceeding backwards from the temporal angle towards the tuber."

[2] "The Mechanism of Natural and of Artificial Labour in Narrow Pelves," 'Transactions of the International Medical Congress,' Philadelphia, 1876. "Furthermore (says Goodell), suprapubic propulsion, together with two movements of unremitting traction, first in the axis of the outlet and then in that of the inlet, cants the base of the skull over the edge of the promontory, causes its sacral side to be nipped high up, and makes its pubic side revolve around the promontory as a centre of motion, and descend over the glib under surface of the pubes."

difference in statements, there can be little doubt of great identity in the results of actual observation of stages in the progress of the head.

The first movement or revolution upon the pubic bones is by Litzmann,[1] Lahs,[2] Kleinwächter,[3] and Spiegelberg,[4] described as if it were the whole matter whereas it is only the first and lesser part of the passage. It is the analogue of the first revolution in head-last cases. It, in the first position, produces a movement like right lateral flexion,

[1] Volkmann's 'Sammlung,' No. 74, s. 558. "In normal cranial presentation (says Litzmann) then follows in the named position the entrance of the head into the pelvis in this manner; that transverse position continuing, while the parietal bone, placed anteriorly, rests with its squamous suture fixed on the upper border of the pubes; on this point, as a turning point, the posteriorly placed parietal bone is pressed downwards at the promontory, under more or less considerable depression and flattening, and in the same degree the sagittal suture approaches from that place to the middle line."

[2] 'Die Theorie der Geburt,' s. 210. "Contemporaneously (says Lahs) with the deeper advance of the forehead, there comes a rotation of the head upon its long axis in this sense, that the head in anterior parietal position, revolving around the upper border of the symphysis, is pushed downwards upon the posterior wall of the pelvic inlet."

[3] 'Grundriss der Geburtshülfe,' s. 228. "The passage (says Kleinwächter) takes place in this way: that the deeper standing anterior parietal bone fixes itself on the posterior wall of the symphysis and forms the fixed point, the posteriorly placed parietal meanwhile descending over the promontorium. . . . More rarely the opposite takes place, the parietal bone, lying posteriorly, forming the fixed point on which the head turns."

[4] 'British Medical Journal,' Oct., 1873, p. 453. "The posterior parietal bone (says Spiegelberg), which is situated above the promontory, is flattened and depressed against the latter by the powers of labour, and is thereby forced more and more down, and the sagittal suture comes nearer the true transverse diameter, that is, to the anterior margin of the brim. . . . . The whole head descends, but not in the axis of the brim. . . . . The mechanism, therefore, is composed of two rotations of the head, the one on the occipito-frontal axis (the sagittal suture leaves the posterior border of the brim), the other upon the transverse axis (the occiput comes down)."

'Lehrbuch der Geburtshülfe,' 1878, s. 455. "This forward movement (says Spiegelberg) of the sagittal suture takes place, as a rule, only through the advancing deeper of the posterior parietal bone, not through turning upon the fronto-occipital axis. But I have seen some exceptions to this, in which that turning actually took place in a slight degree, as was proved by the disappearance of the previously felt squamous suture upwards, at the symphysis pubis."

the sagittal suture advancing forwards. But it is, on reflection, manifest that this cannot be the whole movement of passage, for the sagittal suture cannot advance still further forwards, and must subsequently go with the vault of the skull backwards more or less into the concavity of the sacrum. This first movement has for its result the passage of the posterior edge of the vault of the cranium, first, over the promontory, while the anterior edge is nearly fixed behind the pubic bones.

Barnes[1] described the second and greater movement of revolution around the promontory alone, omitting the first, which is signalised by the advance forwards of the sagittal suture. It is impossible to decide whether Barnes intends his remarks to apply specially to head-first or head-last cases; but he truly says that the head must revolve around the promontory to enter the pelvic cavity.

Goodell, alone among authors, while narrating no actual observations, does with singular accuracy describe the results of the two revolutions. "Before the engagement of the head" says he,[2] "the sagittal suture in a typical case will be found very close to the promontory. To engage, the head must cant over the edge of the promontory; and during the first stage of descent this suture approaches the pubis. Later on it begins to return towards the sacrum. This last movement is owing partly to the moulding of the posterior side of the head, and partly to the greater resistance to descent at the sacro-vertebral angle, while the pubic margin of the brim offers a smooth and glib surface. The head, therefore, pivots on the promontory as a centre

[1] 'Obstetric Operations,' 3rd edit., p. 242. "This projecting promontory (says Barnes) forms the centre of rotation around which the head must revolve in order to enter the pelvic cavity. The side of the head applied to this point scarcely moves at all. The promontory catches the fœtal skull in the fronto-temporal region. If the coarctation be decided, the skull where it is caught bends in. All the onward movement is effected by the opposite or pubic side of skull sweeping in a circle, which I have called 'the curve of the false promontory,' until the equator or greatest circumference has passed the plane of the brim, when the whole head slips into the cavity with a jerk."

[2] 'Transactions of the International Medical Congress,' Philadelphia, 1876.

of motion, and, as it were, rolls over into the pelvic cavity."

The movement of the sagittal suture towards the sacrum (and of the base of the fœtal skull nearly in an opposite direction) in the first part of the passage in head-last cases is analogous to the movement of the sagittal suture forwards at the same stage of a head-first case. In both, the head is revolving to a slight degree on the pubic part of the brim of the pelvis.

The movement of the sagittal suture towards the symphysis (and of the base of the fœtal skull nearly in an opposite direction) in the second and greater part of the passage in head-last cases is analogous to the movement of the sagittal suture backwards or towards the hollow of the sacrum at the same stage of a head-first case. In both, the head is making its greater revolution on the promontory of the sacrum.

The PRESIDENT said that he would refer to only one point in Dr. Duncan's elaborate paper. He questioned how far we were justified in inferring what took place in head-first cases from our knowledge of what took place in head-last cases. The conditions in the two cases appeared to him so different that we ought to use the utmost caution in arguing from one to the other.

Dr. BRAXTON HICKS said that it was most difficult to pick out points to discuss from such papers as those of Dr. Aveling and Dr. Duncan. He had considerable doubt whether the mechanism of descent of the after-coming head could be taken as an illustration of the mode of descent of the forecoming head, for in the event of an abbreviated antero-posterior diameter the latter often made an evasion of the difficulty by coming down face forwards. He would add one remark on Dr. Aveling's forceps, which would apply to all forceps with smooth handles. He preferred forceps made with rough handles, because when traction was applied they had no tendency to slip, but clung to the hand of themselves.

Dr. CHAMPNEYS said, that having had the advantage of seeing some of Dr. Duncan's experiments, he had looked up those authors who had tried to explain the cause of the obliquity of the fœtal head. *Lahs*, describing the rotation of the posterior parietal bone round the symphysis pubis as a centre, says: "The cause of this rotation is that the angle formed between the posteriorly lying cranial surface and the posterior pelvic wall is far smaller

than that formed between the anteriorly lying cranial surface and the anterior pelvic wall." His figure to illustrate this is open to the criticism that the angle is not drawn from the point of contact, and that it would be equally easy to draw a figure proving the direct contrary. *Litzmann*, describing the descent of the after-following head and the similar more rapid descent of the posteriorly lying parietal bone, explains it thus: "In correspondence with the direction of the traction—forwards—the posteriorly lying side of the head gets a start." A similar movement in head-first and head-last presentations is probably due to a common cause. Lahs does not satisfactorily explain it, while Litzmann's theory is obviously incorrect, for "traction forwards" could not exist in Dr. Duncan's experiments by means of a dead weight at right angles to a horizontal pelvic brim. It occurs to me that a possible explanation is the following:—The relative rate of descent of the anterior and posterior cranial sides is inversely proportional to the friction at symphysis and sacrum; the friction is greater at the pubes at first because the surface is larger; therefore the posterior parietal bone descends the quicker at first. The indenting power of a body is inversely proportional to the indenting surface—this is the principle, *e.g.* of a chisel; or, in other words, the larger the surface exposed to a given weight the less the indentations. The promontory of the sacrum offers a smaller surface than the posterior surface of the symphysis pubis, therefore its indenting power is greater. The effect of progressing indentation is rapid increase of friction at that point, not only from the increase of surface exposed to friction, but also from the steep superior side of the indentation which is always becoming steeper. The result is that the posteriorly lying parietal bone descends at first the more rapidly until the friction, caused by the indentation by the promontory of the sacrum, becomes greater than the friction at the symphysis pubis, when the anteriorly lying parietal bone descends the more rapidly, not really describing a circle round the promontory of the sacrum, because both descend. I hope to test this by experiment.

Dr. Galabin asked what conclusion Dr. Duncan would draw as to the occurrence in pelvic contraction of lateral obliquity of the fœtal head of the brim, as described by Naegele, involving a displacement of the sagittal suture posteriorly to the axis of the brim. Many authorities have denied the existence of this in natural labour, but he thought that it occurred when the head did not pass easily, and was so shaped that a slight tilting caused it to present a less diameter to the brim. He thought that general conclusions could hardly be drawn from the behaviour of the after-coming head to that of the head in vertex presentations, but if lateral tilting occurred with a pulling force,

as shown by Dr. Duncan, it would be still more likely to do so with a pushing force, which would permit it more readily. He understood Dr. Duncan to hold that the vault of the head entered the contracted brim, in a head-first case, with the posterior side of the head in advance. His observations led him to think, in accordance with the older view, that the anterior side of the head was generally in advance in such a case, so that a Naegele obliquity existed, and the sagittal suture was posterior to the axis of the brim.

Dr. Duncan said, in reply, that the lateral obliquity of the fœtal head was a matter not of inference but of observation, and it had been noticed by every trustworthy observer in head-first cases. He had himself observed that the sagittal suture often advanced forward, while the head made very little progress, a phenomenon which must be due to a revolution round the symphysis pubis. It was necessary to remember that it was at the earlier stage of labour that the Naegele obliquity was observed. The majority of observers, however, denied the existence of this obliquity in ordinary normal cases, and it might be that Naegele had made his observations on pelves with a slightly contracted brim. In his time the frequency with which a slight amount of pelvic distortion occurred was unrecognised; but it was now known that it existed in from 13 to 15 per cent. of all the cases admitted into the German hospitals. He would remark, in conclusion, that Goodell alone of all observers had described the passage of the head as he had done in his paper, and it was highly probable that Goodell was right.

In reply to the comment of Dr. Hicks, Dr. Aveling said that roughened handles were no doubt useful when this portion of the forceps was straight, but in his instrument the handles were purposely made smooth, because traction was intended to be made from their hooks, the sides being used simply for compression.

JULY 3RD, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.
Present—40 Fellows and 6 Visitors.

Books were presented by Dr. Rt. Barnes, Dr. Wm. Thomson, and Dr. E. J. Tilt, and the American Medical Association.

Job Edwin Brook, L.R.C.P. Ed., and Stacey Southerden Burn, M.R.C.S., were admitted Fellows of the Society, and John A. Lycett, M.R.C.S. (Graiseley), and David Thomson, M.D. (Luton), were declared admitted.

The following gentlemen were elected Fellows of the Society:—Wm. A. Caskie, M.A., M.B. (Largs); Wm. E. Dring, L.R.C.P. Ed. (Boughton); Thomas Davies Harries, F.R.C.S. (Aberystwith); James T. Hinton (Croydon); and Thomas R. Judson, M.R.C.S.

Wm. Burton, L.R.C.P. Ed., and H. Macnaughton Jones, M.D. (Cork), were proposed for election.

Dr. EDIS showed, for Dr. Robert Barnes, a modification of M. Tarnier's forceps. The branches of traction were divided in half, so as to slip readily into their places, and were secured to the angles of the blades in place of, as in the original forceps, working on after the blades were *in situ*.

Dr. WILTSHIRE regretted that he had not known that the modified form of Tarnier's forceps was to be shown that evening, otherwise he would have taken the opportunity of bringing

down a modification of the same forceps which he considered much better.

The PRESIDENT imagined that M. Tarnier's forceps were best suited for use with the patient lying on her back.

Dr. SAVAGE believed that the ordinary forceps in the hands of Dr. Wiltshire would have done just as well, if not better, than this heavy cumbrous machine of Tarnier's. The supplemented arm and cross handle, which were apparently designed to lend extra traction force to the arm of the operator—surely a very dangerous peculiarity in inexperienced hands—the manœuvres of which it was invented expressly to facilitate. The inventor insists that traction should always correspond in direction with that which the handles of the forceps should assume at successive stages of descent of the fœtal head. The new arm and handle being all the while kept in close contact, wherein was the advantage? The ingenious inventor had attempted to produce an instrument which should compensate for want of skill or brains on the part of the operator. To use it properly would require an apprenticeship, the initiated in the end only discovering he could do his work better with a much simpler instrument. To the unskilled the instrument would occasion additional embarrassment.

Dr. EDIS communicated the particulars of a case of double ovarian cysts, with fibroid of the uterus, and considerable amount of ascitic fluid from peritonitis as exemplifying the difficulty of diagnosis in some instances of abdominal tumours.

The patient, from whom the specimen was removed *post mortem*, had been under observation, from time to time, for the last seven or eight years. She was fifty-eight years old, had been married nineteen years, and was sterile. When first seen in 1871 she complained of flooding at her periods. On examination the uterus was found to be studded with small fibroids, the cervix conical, the os uteri small. There was a fulness in the sacral region, but the uterus was mobile.

The catamenia commenced at seventeen, were regular every fortnight and profuse, attended by severe pain. The abdomen had gradually increased in size during the last four months, producing much discomfort from dyspnœa and weight. There had been some marked enlargement

for the last twelve months, but not sufficient to prevent her getting about comfortably.

State on admission.—Body generally emaciated. Slight œdema of both ancles, and labia majora.

On inspection.—The abdomen was seen to be enormously distended, uniformly so, measuring forty-two inches in circumference just below the umbilicus. The superficial veins were quite distinct, due apparently to the absorption of fat from the abdominal walls.

No movement of the abdomen could be detected on respiration.

On palpation.—The abdomen was felt to be tense and resistent, fluctuation being readily detected all over, the fluid apparently being very near the surface.

Per vaginam.—The pelvis was found to be blocked up by a firm cystic growth posterior to the uterus, which latter was pushed up towards the pelvic brim, and seemed to be fixed by the growth posteriorly.

On percussion.—The abdomen was found to be uniformly dull anteriorly, from just below the ensiform cartilage to the pubis. The only spot where any resonance could be detected was the right lumbar region, though at different times there was indistinct resonance in the left lumbar region also. It was difficult to differentiate the hepatic from the abdominal dulness, the one being continuous with the other.

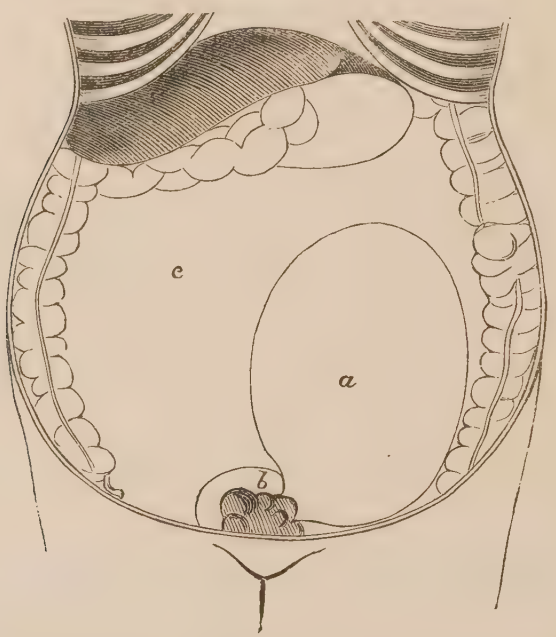
On auscultation.—No bruit, nor any movement of intestines could be heard anywhere over the seat of dulness.

The urine was scanty, acid, free from albumen. On May 10th she was tapped by Dr. J. Hall Davis, and five and a half pints of a smoky blood-stained fluid withdrawn. This fluid was slightly acid. Sp. gr. 1017, and contained ⅛ths albumen. There was distinct blood reaction with the guaiacum test.

The abdomen next day measured thirty inches in circumference. The breathing was much relieved by the tapping.

On the 14th the right half of the abdomen measured seventeen and a half inches, the left nineteen and a half, *i. e.* thirty-seven in all. She progressed fairly well for a week. The amount of urine passed increased in quantity, the breathing became deeper and less frequent, the general health seemed improving. She complained of no pain, slept well on the night of the 18th, and expired suddenly about 10 a.m. on the morning of the 19th May.

Post mortem twenty-eight hours after death by Dr. Coupland. There was slight œdema of both lower extremities, and of the labia majora.

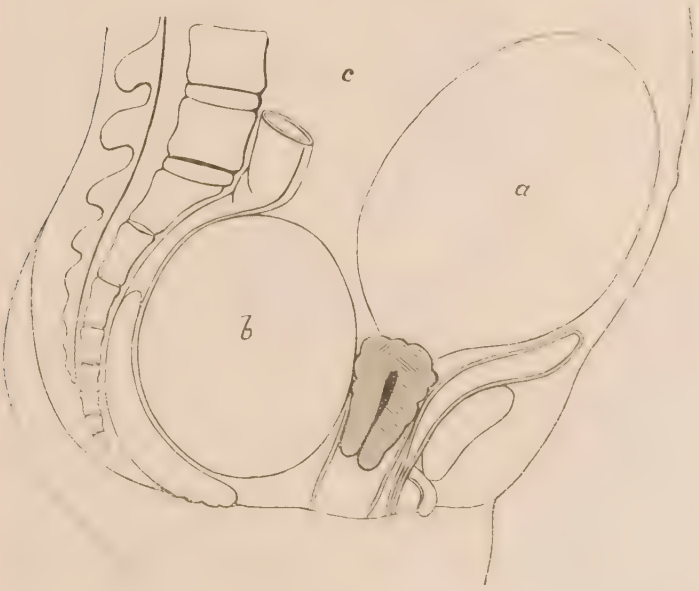


On opening the abdominal cavity the parietal and visceral layers of the peritoneum were found to be rather firmly adherent to one another at the upper part of the abdomen, but widely separated at the lower part. The abdominal cavity was, in fact, divided into two halves,

the line of adhesion passing transversely across at about the level of the last rib. In the upper and smaller part the coils of intestine were seen lying closely packed and adherent to one another.

The lower and larger portion contained a large quantity of highly albuminous fluid of a deep straw colour. Twelve pints were collected. It had a sp. gr. of 1032. The left half of the cavity thus formed was nearly completely occupied by a large ovoidal cyst, which occupied the left iliac, lumbar, and part of the hypochondriac regions; its right border reaching the middle line. A quantity of soft opaque lymph was adherent to the cyst wall and to the thickened and discoloured peritoneum which lined the abdominal cavity.

The cyst passed down to the pelvis, and was found to



spring from the region of the left ovary, and to be provided with a pedicle. It measured nine inches in its long

diameter, and contained thirty ounces of dark brown fluid, highly albuminous, and of a sp. gr. 1016. The interior of the cyst was smooth and shining.

The peritoneum not concealed by the cyst was extremely inflamed; not only was it partially covered by lymph, but injected vessels and hæmorrhage were scattered over it. The lower end of the ileum, the cæcum, colon, and rectum were the only portions of bowel in this part of the abdominal cavity, and they were displaced backwards, and almost concealed at the back of the cavity.

The fundus uteri projected above the pelvic brim; it was nodulated and irregular, from the presence of several intramural fibroids averaging the size of chestnuts.

In removing the contents of the pelvis, the recto-uterine pouch (Douglas's fossa) was found to be completely occupied by another cystic tumour about half the size of the former, multilocular, being composed of one large and several smaller cysts attached to the left ovary. It had compressed the rectum and displaced the uterus upwards; but it was free from adhesions, and like the other cyst could be moved about and readily lifted out of the fossa in which it lodged. Sixteen ounces of a pale citron-green coloured fluid, sp. gr. 1030, and highly albuminous, was removed from it.

The uterine tissue was firm and pale, cervix elongated. Bladder normal. The liver weighed forty-six ounces, and was firm and pale. The spleen weighed three ounces, and was small and tough. The kidneys were rather granular, ureters not dilated.

Remarks.—The fact of a fibroid condition of the uterus having been detected some seven years previously, the wedging in the sacral cavity of the enlarged left ovary, the menorrhagia and gradual enlargement of the abdomen, seemed to point to fibro-cystic disease. The accumulation of fluid in the abdomen somewhat rapidly during the last few months of life, together with a certain amount of discomfort, clearly pointed to peritonitis with effusion of serous fluid. The patient only presented herself at long

intervals at the out-patient department; the abdomen was too distended to admit of the enlargement of the left ovary being diagnosed just previous to her admission into hospital.

PESSARY FOR PROLAPSE OF THE UTERUS.

Dr. Galabin showed a modified form of lever pessary intended for those cases of prolapse in which the perineal body had been destroyed, and neither an ordinary Hodge's pessary, nor the ring pessary of rubber-covered spiral spring could be retained. He had for several years used in such cases a form of Hodge's pessary bent up into a U-shape, as viewed laterally, so that the anterior limb was turned quite

upward. In the instrument now shown, which was constructed of vulcanite, the modification was introduced of making the anterior limb in the form of a cylinder about $\frac{3}{5}$ths of an inch in thickness, so that its pressure was more readily tolerated. The essential point in the mechanism of the instrument was, that the anterior limb indented the anterior vaginal wall into a pouch, and rested high above the apex of the pubic arch, not against the rami. Its escape was prevented by the posterior surface of the symphysis, and its retention was thus quite independent of the perineum. He had found the pressure on the base

of the bladder well tolerated in cases where the vaginal walls were lax, even with the old form of instrument. One of these had been worn, contrary to directions, for two years without any inspection, or even the use of a syringe, but had caused no irritation. A diagram, drawn to the scale of nature, was shown, illustrating the position which the pessary occupied in the pelvis.

Dr. Heywood Smith exhibited a modification of his ovum forceps. The fenestræ are now made longitudinally, to facilitate their introduction into the uterus; and when the handles are pressed firmly, the edges of the blades close completely, so that small growths can be removed with facility.

He also exhibited a new forceps, bent as a sound, for the introduction of laminaria tents, the design of Mr. Coley, House Physician at the Hospital for Women. By means of this instrument the tent can be introduced even in cases when the canal is much bent from the presence of a fibroid tumour.

Dr. Fitzpatrick exhibited a specimen of large uterine mole, which he had removed from a patient the same morning. The President pronounced it to be an excellent example of the cystic variety of the disease.

Dr. Fitzpatrick said that he had lately been confronted by two cases of persistent hæmorrhage, attended with enlargement of the uterus, and leading to the expectation of pregnancy. In one case the patient was a young woman, æt. 25, married, and the mother of one child; in the other, the subject of the disease was 48 years of age, and she had had a child some three years previously. In the former a dose of ergot quickly caused the expulsion of the diseased mass, while in the latter ergot proved ineffectual to arrest hæmorrhage, or excite the expulsive action of the womb. At length, when the patient had been much reduced, labour came on and terminated satisfactorily.

From the observation of those two cases, Dr. Fitzpatrick would be inclined to look upon constant hæmorrhage associated with rapid enlargement of the womb in the early months of assumed pregnancy as pointing strongly to the presence of a mole.

Dr. Playfair showed for Dr. Gaillard Thomas, of New York, the model of a bed which he had contrived for cases of puerperal hyperpyrexia requiring the continuous application of cold. The model was simply a small folding cot, with a sheeting of waterproof. Dr. Playfair added that in his case of puerperal septicæmia, the publication of which had led to the contrivance of Dr. Thomas's model, he had made use of an expedient which he thought was better adapted for the purpose than Dr. Thomas's bed. He had placed the patient on a water-bed, into which iced water was forced at intervals by means of an ordinary garden pump. In certain cases the cot shown might prove useful, but in those severe cases in which it was impossible to move the patient he preferred his own contrivance.

DOUBLE MONSTER.

Dr. Godson showed a case of conjoined twins, which had occurred in the practice of Mr. J. C. Eaton, of Ancaster. The mother was a slight delicate woman, aged 40, and had previously given birth to seven children born alive. She menstruated last at Christmas, 1877; she had suffered considerably during her pregnancy, the child being felt by her as if placed "crossways." Her labour occurred on June 5th, a large quantity of liquor amnii having escaped a week previously. When examined all the four feet were found presenting, and the os fully dilated. An attempt was made to bring one fœtus down, and push the other back, and the failure was attributed to the funis being wound round the bodies. On more careful examination,

however, it was found that there was only one body. Delivery was effected with considerable difficulty by hooking the finger over the point of junction superiorly about the level of the manubrium sterni.

The woman made a good recovery. Dr. Godson remarked, that the specimen corresponded with the well-known Siamese twins, and belonged to the most common class of double monsters, that described by M. Saint Hilaire under the order of *Monomphaliens*, class *Xiphopages*. Both were females, and it was remarkable that they were always found to be of the same sex. Had not premature labour occurred they might have been born alive, as in more than one instance of a similar malformation. Dr. Godson hoped to have an opportunity of carefully dissecting them, and reporting further to the Society.

ON SOME OF THE CHANGES IN THE UTERUS RESULTING FROM GESTATION, AND ON THEIR VALUE IN THE DIAGNOSIS OF PARITY.

By John Williams, M.D.,

ASSISTANT OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

The subject of the diagnosis of nulliparity from the appearances found in the uterus after death was brought before the notice of the Society by Dr. Meadows two and a half years ago, immediately after the conviction of the brothers Wainwright of the murder of Harriet Lane. The uterus of the murdered woman was submitted to experts with a view to ascertain if it had borne a child; but the opinions expressed with regard to it were so different, that the medical evidence given at the trial proved to be of little value in guiding the jury to a verdict.

There were in that instance special difficulties in coming

to any conclusion with regard to the point in question, inasmuch as the body had been buried for a considerable period and subjected to the action of a destructive agent, so that the uterus had undergone peculiar changes, and had lost some of its original characters, and the marks usually considered indicative of a previous pregnancy, of uncertain value though they be, were not available.

Had it been possible to have brought forward at the trial evidence constituting a scientific proof that the uterus in question had borne a child, the evidence of the prisoners' guilt would have been made stronger, or at least misgivings which existed in some minds as to the justice of the verdict might have been removed. On the other hand, had scientific proof been forthcoming that the uterus was virgin, it would have been impossible to have brought in a verdict of guilty, for Lane was known to have been pregnant and to have borne a child.

Circumstances of a similar character may unfortunately arise again, in which proof of parity or nulliparity may turn out to be proof of innocence or guilt, and therefore from a medico-legal point of view the question,—Has a given uterus taken part in the processes of gestation and parturition? may become one of the greatest moment. Evidence of parity must be found in some characters of the uterus which has been pregnant differing from those found in the virgin organ, and induced by gestation and parturition; these, if they exist, furnish us with positive evidence of pregnancy, and the discovery of them in any given instance justifies a positive answer.

On the other hand, the evidence of nulliparity consists only in the absence—real or apparent—of such characters or marks, and unless the changes found in the uterus as a result of pregnancy be such as cannot be overlooked, it is possible that they may escape the notice of an observer, however careful he may have been in his examination, and then the only possible answer to the question set is, I do not know. Are there then any characteristic marks left in the uterus by the processes in question, the discovery

of which would enable us to assert that the organ containing such marks, had at some period been gravid?

It is well known that for a short time after labour, and until the process of involution is more or less completed, such marks do exist. It is not my intention, however, to describe these, but to pass on to a description of some of the conditions found in the uterus when the process of involution is over, say after the eighth week after delivery, and which point to previous pregnancy.

The characters which usually supply the data for the formation of an opinion upon this point are, the increased thickness of the uterine walls, the greater measurement of the uterine cavity, the increase of the distance between the Fallopian tubes, the greater arching of the fundus, the diminished convexity of the inner surface of the walls of the body of the organ, the altered form of the cervix and the shape of the os tunicæ. It is true that in many, perhaps in most cases, these characters would afford a fair presumptive evidence of a previous gestation, but it is equally true that each one of them may arise from other causes than pregnancy. Its measurements are all enlarged in hypertrophy of the organ, the arching of the fundus may be as great in nullipara as in multipara, as was shown by Dr. Braxton Hicks and Dr. Edis; the convexity of the inner surface is destroyed by intra-uterine growths, and I know of no evidence to show that it is restored after they have been removed; the characters of the virgin cervix may be destroyed by disease, and those of the os uteri by the surgeon's knife.

Any marks in the uterus, then, however short their existence, and however difficult of discovery, which, when found, enable us to assert that the organ containing them had borne a child, become invaluable. In the discussion which took place on Dr. Meadows's note already referred to, I stated that such marks were to be found in the blood-vessels of the uterine wall.

Taking first the arteries, I would observe that the arteries of the uterus, like those of other parts of the body,

possess three coats, an inner, lined with epithelium, a middle or muscular coat, and an outer coat. These three different layers of the arterial coat can be readily observed, except in the smaller branches. The larger vessels form circles around the organ and run near the outer surface. They give off branches which again divide and become finer and finer as they approach the inner surface, so that in the latter situation the vessels may escape observation by the naked eye, and even by a low magnifying power, unless they be in a state of natural or artificial injection. The larger vessels which are situated near the peritoneal surface are surrounded by connective tissue, which unites them to the surrounding uterine wall, but the smaller have much less of this tissue around them.

During gestation the arteries and the connective tissue undergo enlargement as well as the muscular elements of the uterine wall. The calibre of the arteries becomes increased, and their walls hypertrophied. This condition can readily be recognised in a pregnant uterus, or in a uterus soon after labour. After parturition their calibre becomes reduced, owing to the contraction of the uterus, and the substance of their coats probably diminishes during involution, but they appear to be affected by the retrotrade process in a less degree than the tissues of the uterine wall generally.

In a section of a uterus which has undergone the process of involution, the arteries project beyond the surrounding surface, present thick yellowish white walls, more opaque than the tissues around, and their canals remain patent. These appearances are seen throughout the greater portion of the wall of the body of the organ, but are more marked in the outer part, while near the inner surface they are lost.

The late Dr. Snow Beck said, "When the vessels of the uterus are divided transversely, they present a wavy outline at the inner border of their section, and when opened longitudinally the inner surface presents a number of folds resembling the inner surface of the stomach or bladder

when contracted. From these appearances, in which the internal and middle coats of the arteries are involved, I am inclined to think that the vessels do not diminish in size after parturition, but are only contracted in their cavity, ready to be again stretched out upon a large quantity of blood being sent to the organ." The condition described by Dr. Beck is observed in a slight degree in all arteries after death. It is very marked in the vessels of some uteri which have been pregnant, while in others it does not appear more marked than in the arteries of the virgin organ. The naked eye appearances described disappear in part when the organ has been hardened in spirit.

On microscopic examination the connective tissue around the arteries is found to be increased in quantity, the arterial muscular wall is greatly hypertrophied, and the inner wall considerably thickened. The vessels appear moreover more numerous than in the virgin organ; but whether this be due to actual increase in their number, or to the greater ease with which they are observed by reason of their increased size I am not prepared to state. To estimate the exact value of these conditions in the diagnosis of the previous existence of pregnancy, three questions should be answered, and greater experience than I possess is required for the task.

1. Is the condition described present in all uteri which have been gravid?

2. Is it a permanent condition?

3. Is it simulated by disease?

It is well known that the process of involution after delivery, proceeds in some cases beyond what is regarded as the normal limits, and that the uterus in such cases may be reduced to the size of an organ which has undergone senile atrophy. I have not had an opportunity of examining the condition of the vessels present in such an organ, and do not know what it may be. Cases have, moreover, been recorded, in which the uterus had been reduced to a membranous sac, or even had disappeared

altogether after parturition; in such cases it is evident that no characters indicative of previous pregnancy could be found in the organ.

But setting aside these rare and exceptional cases, I have found the characters I have described in all the uteri which had borne children which I have examined during the last five years.

If the condition survives the process of involution following upon delivery, it appears to remain permanent, for I have found it as long as fifteen years after the last pregnancy under the following circumstances:—The subject was fifty-five years of age; she had had her last child fifteen years before death; she had ceased to menstruate for eight years, and the uterus had undergone senile atrophy. When the condition has been found under such circumstances, its permanency may, I think, be fairly inferred.

I have never seen the condition brought about by disease, and I have never found it in the virgin organ. I have had no opportunity however of examining uteri from which fibroid tumours, or polypi, had been removed during life. I am not aware that any other observer has found the appearances described, in the virgin; indeed, it appears certain, that they can be caused only by some condition which causes great enlargement and general hypertrophy of the uterus, followed by a diminution in size or involution.

It cannot at present therefore be asserted, that the state of the uterine arteries described furnishes positive proof of parity; but at the same time it must be admitted, that it affords the strongest presumptive evidence we possess of that condition; while further research may show, that it amounts to absolute proof of previous gestation.

The veins of the uterus cannot be said to possess distinct coats. They are simple channels formed in the walls, lined by a delicate epithelium similar to that which is found lining veins in other parts of the body. The lining is united to the muscular wall by very scanty and

delicate fibres of connective tissue. These, as well as the epithelial lining, are best seen by scraping the interior of the vein and placing the substance thus obtained under the microscope. I have not been able to distinguish the

Fig. 1.

Portion of uterus nine weeks after labour, showing the growth in the walls of the sinuses in the placental site.. Natural size.

a, *a*. Sinuses close to surface.
b, *b*. Sinuses at a greater depth, with thickened walls.
c. Sinuses at still greater depth, walls less thickened.

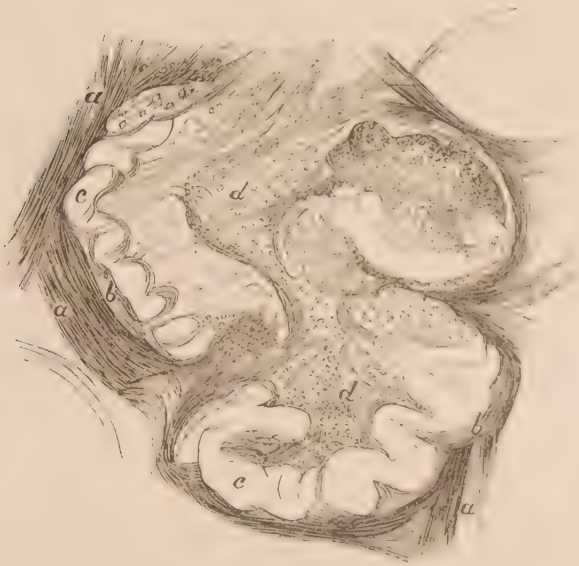
epithelium in a cross section of the sinus. Friedländer appears to have been more fortunate, and to have seen the epithelium *in situ*. It consists of polygonal and fusiform nucleated cells containing granular material.

The veins or sinuses are enlarged throughout the body of the uterus during gestation, but the enlargement is far greater in that part of the wall to which the placenta is attached. This, when cut into towards the end of pregnancy, presents almost a trabeculated structure, so completely riddled is it with anastomosing venous channels of considerable size.

Friedländer, who has investigated the condition of this part during the last two months of pregnancy, states that even at that time, and before parturition, many of the sinuses are closed. As I have had no opportunity of examining the condition present at this period, I will briefly state what he has observed. He says that, during the eighth month of pregnancy, many of the venous sinuses

are surrounded by a wall 0·04 mm. in thickness; this wall contains abundant tolerably large nucleated cells often having several processes, in a clear almost homogeneous matrix, which becomes intensely coloured by carmine solution. This membrane has a more or less undulating or folded appearance, and is separated from the surrounding tissue by a wide zone of fibrillar connective tissue. The contents of the sinus appear to consist not only of red

Fig. 2.



Sinus nine weeks after labour. $(\frac{56}{1}.)$

a. Muscular wall of uterus.
b. Thin layer of connective tissue between muscular wall of uterus, and hyaline folded membrane.
c, c. Hyaline convoluted membrane, almost filling the channel of the sinus.
d, d. Remains of a clot organised.

and white blood corpuscles, but also of a greater or less number of dark granular cells, which are scattered

between the blood-corpuscles. In form they vary, some being globular, others elongated; their average size is that of a cell of the decidua, but some reach twice that size. They contain two to five nuclei, one of which reaches a large size, and appears like a vacuole. Friedländer is inclined to the opinion, that they are wandering cells from the decidua, which have migrated and have come to occupy the sinuses in the wall of the uterus. They occur sometimes singly, sometimes like a continuous epithelial layer on a part of the wall, and become at last so numerous that the sinus is completely filled by them, and only here and there between them some blood-corpuscles find room. Such filling of the sinuses gives rise to obstruction to the circulation and to coagulation of the blood—clots are found to occupy the sinuses in part. These clots are peculiar, inasmuch as a fine network of threads runs through them; this, Friedländer does not regard as a result of the coagulation of the fibrin, but as some further modification of the primary clot.

Many sinuses which are not obstructed by the accumulation of the large cells are at this period (eighth month) filled with clots, so that coagulation is not always the direct result of heaping up of granular cells in the sinuses, though it is natural to infer that it occurs as an indirect consequence of obstruction in neighbouring blood channels.

A third method of arresting the circulation in the wall of the uterus under the placenta is a narrowing of the blood channels by the growth of a young connective tissue in their walls. This new growth has a wavy outline, and may increase so as to render the sinus impervious.

A fourth method is filling of a sinus by a dark, nucleated, markedly fibrous material in which lymph corpuscles are scattered. This perhaps represents a later stage of organisation of a thrombus only.

The only pregnant uterus I have had an opportunity of examining was one at the seventh month, and in that instance the sinuses under the placental site were gene-

rally filled with clots, but this appeared to me at the time to have been due to post-mortem change, and I am confirmed in this opinion by the fact, that after labour the same condition is not usually present, for of several uteri which I have had opportunity of examining soon after parturition, I have found but one in which the sinuses were generally occupied by coagulated blood. Those sinuses, however, which open on the surface, are usually but not invariably filled with clots, but these clots proceed to the interior of the sinus for a very short distance only. They are quite superficial, and appear as plugs merely filling the orifices, and I doubt much if they play any important part in preventing hæmorrhage after delivery.

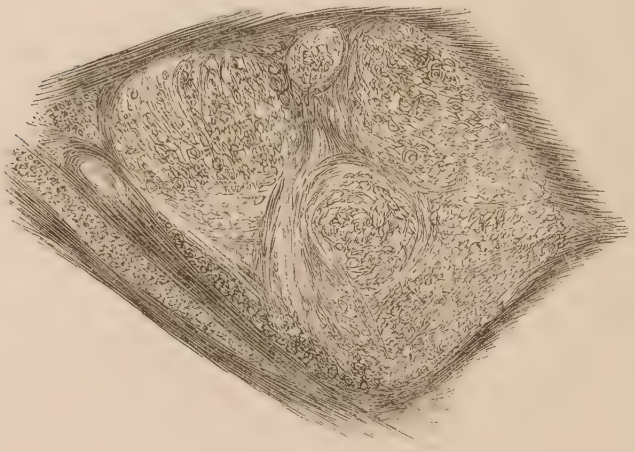
Not infrequently also have I found clots with a network of fine threads, but only rarely accumulations of large granular cells, occupying the sinuses; and in the instances in which I have met with them they have been near the surface and superficial to the muscular wall of the uterus.

Thickening of the wall of the sinuses is also found at this period, and it appears to be due to the presence of an increased amount of connective tissue. This appearance, though it is seen for a little distance from the surface, yet does not extend deeply into the muscular wall.

At the end of four weeks, however, a great change has taken place. The walls of the sinuses at the site of the placenta are much thickened throughout the greater part of the uterine wall. This thickening is in part due to a thin zone of connective tissue. Within this is a layer of a granular, glassy-looking, transparent substance thrown into folds, which reminds one of the appearance presented by a corpus luteum. In many places the channel of the sinus is completely closed by this folded layer, in others the centre is occupied by the remains of a clot which has become organised, while in others, again, a narrow lumen is still left. This substance takes carmine colour readily, and when torn by needles breaks into particles of a polygonal shape similar to some of the epithelial cells originally

lining the sinus, and it appears to be a distinct growth resulting from the proliferation of those cells. The zone of connective tissue around it is very thin and sends pro-

Fig. 3.



Sinus twelve months after labour. $(\frac{180}{1}.)$

cesses between the folds into which it is thrown. At a later period it is found relatively more developed, and I have found it most marked at the third month, but I have not had opportunity of examining it between the third and the ninth month after delivery. Its apparent increase in size relatively to the tissue surrounding it may be due to the disappearance of the septa between the sinuses, for many of these become absorbed during the process of involution, and the part is actually considerably smaller at the beginning of the third month than at the end of the fourth week after parturition. In the ninth month in the only instance I have examined, a sinus was found presenting the peculiar characters described, and measuring $\frac{1}{100}$th inch in diameter. I have also found it twelve months after delivery preserving still, though somewhat indistinctly, its convoluted character. At this time it

measures about $\frac{1}{180}$th inch in diameter, and is apparently about to disappear altogether. I should state that the three uteri, one nine weeks, one nine months, and one twelve months after labour, were well involuted, and the cavity of the last measured barely two inches in length, after the organ had been in spirit.

These appearances presented by the sinuses in the wall of that part of the uterus to which the placenta was attached, seem to be diagnostic of the previous existence of pregnancy. Whether they occur after abortion or not is not known. When found they justify a positive answer as to parity. It is true they are not permanent structures, but they are discoverable for twelve months after parturition. Friedländer found them at the third and fifth months, and I have found them at the third, ninth, and twelfth months in the specimens which I have had opportunity of examining at those periods.

In conclusion I must thank Drs. Roper, Wickham Legg, Sydney Coupland, and Herman, for their kindness in furnishing me with material for studying the subject of the paper.

The PRESIDENT said that the best thanks of the Society were due to Dr. Williams for his interesting paper on a subject the importance of which it was impossible to exaggerate.

Dr. MATTHEWS DUNCAN expressed his sense of the extreme value of the contribution, and

Dr. PLAYFAIR, while hesitating to pass any criticism upon the paper, said that he would not like the occasion to pass without bearing witness to the ease with which the changes described by Dr. Williams could be made out under the microscope. He did not doubt that when once one had had them pointed out to him he would be able to recognise them again.

Dr. SAVAGE thought no discussion at present could be raised on Dr. Williams's interesting communication which involved points altogether new and unexpected. In the Wainwright case it was sought to apply the distinctions set down in the books to a uterus dried up and wasted, then imperfectly restored to form by prolonged maceration in water. This specimen which had the look of a rotten oyster was laid before the Society. The rash judgments founded on it were rendered the more painfully conspicuous by the mistakes made by various Fellows of the

Society over a small but very complete collection of fresh uteri exhibited the same evening by Dr. Edis. Might not the changes alleged in the inner surfaces of the venous spaces consequent on pregnancy follow the enlargement of the uterine body from other causes? The virgin uterus adduced for comparison was that of a child of fifteen. It was not to be expected that Dr. Williams could have opportunities of examining virgin uteri at all ages and in all possible unimpregnant states, yet researches less extensive would scarcely warrant Dr. Williams's conclusions. In a medico-legal point of view a single exception either way would be fatal to them. The changes in the arteries apparent, according to Dr. Williams, in the uterine body after pregnancy are natural states of those vessels in the cervical portion, virgin or not. There is a capital illustrative figure of this in Henle's large work. The debate on the Wainwright case ended in the appointment of a commission of Fellows amongst other things to decide on the testimony afforded by uteri. The president of it was to dry artificially and then macerate in water according to what was done in the Wainwright case. Nothing since has been heard of this Commission. If not dissolved might it not now be profitably employed in the direction indicated by Dr. Williams, who would probably permit himself to become a member of it.

In reply Dr. Williams said that he regarded the changes in the sinuses as inimitable, and therefore diagnostic of previous pregnancy. That they occurred in no other condition may be inferred from the fact that after pregnancy they were met with only in the sinuses of that portion of the uterine wall to which the placenta was attached. He thought further research was necessary to estimate the value of the arterial changes in the diagnosis of previous gestation.

LABOUR COMPLICATED WITH AN OVARIAN CYST.

By A. H. Brewer, L.R.C.P. London.

Early on the morning of December 5th, 1875, I was summoned to attend Mrs. H—, who had been in labour several hours.

She was a woman of short stature, thirty-five years of age, and had been confined twice previously; the first, a

natural labour, the second a footling, in the delivery of which there was considerable difficulty with the after-coming head, on which occasion I was called to the assistance of the medical attendant, and performed craniotomy. This was just twelve months before the present labour. She had experienced great discomfort throughout this pregnancy, and had been an out patient at Guy's Hospital, where she had been informed that there was falling of the womb, and for the relief of which a pessary had been introduced; it caused, however, so much discomfort, that she very soon had to withdraw it. When I saw her she had arrived at the full term of pregnancy. On examining her I detected nothing abnormal except that there was considerable swelling of the external parts; the os uteri was high up, dilated to about the size of a shilling, the head presenting in the first position. I told the nurse to send for me when the pains became stronger. At a few minutes before seven I was sent for. The nurse said, "the waters had broken, and she thought I could be of use." The pains were now violently expulsive. I made an examination, my finger coming upon somewhat high up, and a little posteriorly, what felt like a fully distended bag of waters enclosed in a tough and thickened membrane. My finger passed easily in front of this swelling immediately behind the pubic arch, and came upon the head, uncovered by membranes, through a well-dilated os uteri. The swelling felt almost too firm for a cyst containing fluid, still it had a certain amount of elasticity; it was not firm enough for any solid growth from the sacrum, it was evidently extra-uterine, and certainly extended above the brim of the pelvis; it appeared to descend below the head of the child, and to become more tense with each uterine contraction. With the forefinger of one hand in the vagina, and that of the other in the rectum, I distinctly made out that the tumour was situate between the two passages. I concluded that it must be an ovarian cyst, because I could think of nothing else which it could be. I sent for my father, who kindly saw the case with me, and

agreed as to the diagnosis, but advised waiting awhile, as there appeared no need of immediate interference. After waiting for about half an hour, when the perinæum was beginning to be distended by the tumour, during a violent pain a sudden gush of fluid took place, the tumour disappeared, the head immediately descended, and in a very few minutes delivery took place, the child being still-born.

I removed the placenta, and then made an examination. The posterior wall of the vagina was very much prolapsed; and high up I passed my finger into an opening, large enough to admit two fingers, it did not communicate with the rectum. For a week no bad symptom supervened.

On December 13th, the eighth day, she began to complain; she said she had on the previous day taken some beer, which she thought had disagreed with her and occasioned diarrhœa; she had shivered, and there was slight tenderness on pressing the abdomen; there was some difficulty in voiding her urine, the discharge had a slightly fœtid odour, the skin was hot and perspiring. I gave her a febrifuge mixture with Tr. Opii.

On the following day, December 14th, there was no improvement; the vulva was much swollen, a vaginal douche of Condy's Fluid and water was used. The condition became gradually worse till the 17th, when she could pass no urine; the external parts were more swollen, the lochiæ very offensive, the temperature 102° Fahr., the pulse quick and small. My assistant passed a catheter with difficulty; while doing so, a large quantity of purulent fluid poured from between the swollen parts. Ordered Quinine and Chlorate of Potash internally, and vaginal injections of diluted Condy's Fluid.

On the following day no improvement having taken place, and the abdominal tenderness having increased, I advised her to see Dr. Godson in consultation with me.

Accordingly next day, December 19th, Dr. Godson met me, and he thus described her condition:

Patient very restless, temperature 104° Fahr.; pulse 130; perineum livid, distended as if by a fœtal head; anus widely open. On passing the finger through the ostium vaginæ, it comes upon a tense swelling blocking up the canal; the os uteri is out of reach; the hypogastrium is much distended, and dull on percussion. On making firm pressure upon the tumour in the vagina, the forefinger lacerated the vaginal wall and slipped into a cavity, from which a large quantity of fluid of a very fœtid odour resembling molten wax immediately escaped. The vaginal tube of a Higginson's syringe was at once passed through this opening, and a quantity of carbolic acid lotion (1 to 80) injected. The fluid appeared to pass a considerable distance into a cavity, and was at once forced out from the vagina with a gurgling noise upon pressing on the hypogastrium. Quinine in 2-grain doses with opium was ordered, and the injection into the cavity to be frequently repeated.

On December 21st, when Dr. Godson saw her again with me, there was great improvement, and the lividity and swelling of the external parts had subsided. The feverish condition had much diminished, and she continued to convalesce till January 6th, 1876, when I was shown a peculiar looking dry membrane which had been passed the previous day. I forwarded this to Dr. Godson, and he confirmed my view, that it was the cyst wall of an ovarian tumour.

On February 9th, 1876, she walked to my surgery, a distance of some 250 yards, looking fairly well. Upon examination some thickening was to be felt in the posterior vaginal wall, like cicatricial tissue.

Subsequent to this Mrs. H— became an out-patient at St. Bartholomew's Hospital under the care of Dr. Godson, and I saw little more of her till January 16th of this year, when I delivered her, at the full term, by means of the long forceps, of a male child living. The pains were frequent, and appeared strong; the lips of the uterus were swollen and œdematous, and the descent of the head was very slow.

The scar in the vaginal wall was distinctly to be felt, and the rectocele was present.

The patient made a perfect recovery.

Dr. Godson said that he had little to add to the record of this case except to remark that nature had clearly pointed out the treatment which should have been adopted during labour, viz. puncture of the cyst through the vagina. The case also illustrated the great value of carbolic acid lotion. The injection of this soon got rid of the fetor, and the high temperature rapidly subsided. Dr. Godson regretted that he had omitted to bring with him the membrane which had been expelled. Under the microscope it was found to contain crystals of cholesterine, and had all the characters of an ovarian cyst wall.

OCTOBER 2ND, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the chair.

Present—37 Fellows and 8 Visitors.

Books were presented by Dr. Barnes, D. H. Beigel, Dr. J. R. Chadwick, Dr. W. Goodell, Dr. G. J. Engelmann, Dr. Gr. Hewitt, Dr. A. Leblond, Dr. E. Martin, Dr. Mattei, Dr. Mundé, Dr. Playfair, Dr. Ribemont, Dr. B. S. Schultze, Mr. James Startin, Dr. Gaillard Thomas, Dr. A. Valenta, Dr. Wasseige, the Registrar General, the Staff of St. Thomas's Hospital, and the House Committee of the London Hospital.

The following gentlemen were declared admitted as Fellows of the Society:—J. Dobree Buncombe, M.R.C.S. (Beaufort West, Cape Colony), W. A. Caskie, M.B. (Largs), T. D. Harries, F.R.C.S. (Aberystwith), John O'Neil, M.D. (Maldon, Victoria), and J. A. Rawlings, M.R.C.P. Ed. (Swansea).

William Burton, L.R.C.P. Ed., and H. Macnaughton Jones, M.D., were elected Fellows of the Society.

And the following gentlemen were proposed for election:—William Anderson, M.D. (Jamaica), Edmund Overman Day, M.R.C.S., John Chamberlin Eaton, M.R.C.S. (Ancaster), Richard Ellery, L.R.C.P. Ed. (Plympton), Louis Henry, M.D. (Melbourne, Victoria), Nathaniel H. K. Kane, M.D. (Kingston Hill), A. A. M'Donald, M.B. (Toronto), and George Mowat, M.R.C.S. (Swansea).

Dr. Herman exhibited a child, showing one of the possible results of the use of forceps. A little behind the right frontal eminence was what felt like an irregular gap in the bone, about two inches long by about five-eighths of an inch wide. This was occupied by a pulsating swelling. The superficial veins in the neighbourhood were larger than on the opposite side. Running obliquely across the skin over its lower part was the scar of a laceration, which, according to the medical man who delivered the child, had been undoubtedly caused by the forceps. The child's mother said that a piece of bone had subsequently come away from the wound. Pressure over the tumour did not cause any cerebral symptoms; and on deep pressure, a firm base could be felt below the level of the surrounding bone. The child was eighteen months old, well developed for its age, and presented no other symptoms of disease.

The President inquired whether the tumour appeared to be increasing, and suggested that a thin plate of metal should be applied over it, to obviate the occurrence of hernia cerebri.

Dr. Edis thought that though the outer table of the skull might have become exfoliated, there was still the inner table to be detected beneath the pulsating tumour, so that there was still a bony plate intervening between the calvarium and the brain itself.

Dr. Playfair asked if there were any history of the delivery.

Dr. John Williams said that fracture of the fœtal skull took place occasionally in the course of natural labour. Dr. Monteith, of Wingate, had recorded such a case in the 'Lancet,' about two years ago.

ON THE TREATMENT OF PREGNANCY COMPLICATED WITH CANCEROUS DISEASE OF THE GENITAL CANAL.

By G. Ernest Herman, M.R.C.P. Lond.,

ASSISTANT OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

I begin by narrating two cases which have occurred under my own care:

Case 1.—*Cancerous tumour of rectum, obstructing delivery; cephalotripsy; peritonitis; death.*

(From notes by Mr. T. Mark Hovell, Resident Accoucheur.)

M. B—, æt. 30. Had had seven children, the last a year and nine months ago, the labour lasting about seven hours. Ten days after the confinement she began to have diarrhœa, which lasted on and off for about eleven months; for the last ten months fluid discharge from the bowel had been so constant as to prevent her from walking about.

I was called to her by Dr. Niblett, of Hackney, on account of the obstruction to labour caused by malignant disease of the rectum. She had reached, or nearly reached, the full term of pregnancy. She was without delay taken into the London Hospital. On examination per vaginam, a hard fixed tumour was felt projecting into the pelvis from behind. The antero-posterior diameter of the space left between this mass and the anterior pelvic wall, was, as nearly as could be ascertained, about $1\frac{3}{4}$ inches, there being room for two fingers to lie side by side in this diameter. In the lateral measurement, there was room for the whole hand. The os uteri was healthy, and so was, to the touch, the vaginal mucous membrane. Examination per rectum showed that the wall of the bowel was converted into a firm, hard, irregularly ulcerated mass.

July 13th.—About 12.45 a.m. the os having reached nearly full dilatation, the patient was put under ether. The membranes were then ruptured, the head perforated, and then repeatedly seized and crushed with the cephalotribe, first in one direction, then in another, the position of the head being with ease altered (between the applications of the instrument) by bimanual manipulation. After a good deal of crushing, the head was extracted in the grasp of the cephalotribe. But it was found so difficult to drag the trunk and arms through the pelvis, that the head was detached with scissors, the trunk then pushed up, the feet brought down, and extraction thus accomplished. The placenta was expressed without difficulty. The labour was completed about 3 a.m.

Just after the ether was withdrawn, the patient became very pale, and the pulse very rapid and feeble. Some brandy was administered, after which her condition improved.

During the following four days the temperature rose, the patient complained much of pain, notwithstanding opiates; the last two days there was vomiting. After the second day the uterus was washed out twice daily with Condy's fluid and water.

She died on July 17th, at 1.10 p.m. The *autopsy* was made on the following day by my colleague Mr. M'Carthy. There was peritonitis, puriform fluid being found in the peritoneal cavity. About two inches above the anus, there was stricture of the rectum, caused by a great cauliflower looking mass, which had invaded the mucous membrane, and extended through the wall of the rectum involving the vagina. On the inner surface of the cervix uteri were found some small superficial sloughs of the mucous membrane, and underneath these there was suppuration.

Case 2.—*Cancer, with fixation, of cervix uteri; pregnancy; copious hæmorrhage; abortion induced at end of fifth*

month; marked relief to symptoms. Death seven months afterwards.

(Reported by Dr. S. D. Clippingdale, Resident Accoucheur.)

A. S. R—, grocer's wife, æt. 33. Admitted into the London Hospital June 18th, 1877.

She stated that her health had been good until marriage. The catamenia appeared at twelve, were always regular, usually lasted five days, were profuse, and accompanied by a good deal of pain, which, however, was never severe enough to lay her up. During the day or two previous to the menstrual period, she used to suffer from epistaxis on any exertion: she said that by this she knew when the time was approaching. She was married between eighteen and nineteen, and there was a tolerably clear history of syphilis having been communicated to her soon afterwards. She had had eight children, the last two years before admission: good times with all of them.

She attributed the illness for which she was admitted to "worry and exertion" during a menstrual period in the preceding February. At that time the flow, instead of lasting five days only, became continuous. At the end of three weeks she consulted a medical man, who gave her some medicine, the taking of which was followed by labour-like pains, and arrest of the hæmorrhage for a few days. It then returned, and continued daily till admission. Its amount varied, from one to seven napkins a day having been usually required, but it was often severe enough to cause faintness. Since the beginning of the hæmorrhage she had suffered from a sharp "stabbing" pain in the left inguinal region, which was constant, and worse at night, and from a bearing-down pain in the hypogastrium, which she described as extending down the passage: this latter pain was worse when the flooding abated. The inguinal pain was not affected by the amount of hæmorrhage. Neither of these pains at all resembled the pain of a menstrual period, or that of labour. There was also pain in the back. For the two months preceding admission she had had pain and difficulty in micturition,

having, as she expressed it, to "force" very much. There was never any want of control over the bladder. The bowels had been generally constipated, and their action was accompanied with bearing-down pain. She had lost flesh, strength, and appetite. She had been under medical treatment, and had kept her bed during nearly the whole of her illness prior to admission.

On July 3rd, the following was her condition:—She was wasted, anæmic, and of the "faded leaf" complexion. The fundus uteri reached two-thirds of the distance between the pubes and umbilicus, and the fœtal heart could be heard over it. The cervix uteri was greatly and irregularly thickened in its whole circumference, large masses of new growth projecting from it, especially from its right side. It was low in the pelvis, and quite fixed. There was no evidence of disease in any other organ. Her urine was acid, and contained no albumen.

On July 5th she was seen in consultation with me by my colleague Dr. Palfrey, who concurred in the diagnosis of malignant disease of the cervix, with pregnancy, and in the proposed treatment; viz. the speedy evacuation of the uterus.

July 7th, 10 a.m.—The patient being under ether, the cancerous tissue was destroyed with Paquelin's thermo-cautery, as freely as was judged safe. By this means, the cervical canal, into which previously a sound could only be be passed with difficulty, was made large enough to admit two laminaria tents of moderate size, which were then inserted. At 3 p.m. she began to suffer from much pain, which continued during the night.

July 8th, at 10 a.m.—The tents, which were well expanded, were removed. A finger could be easily introduced into the uterine cavity, but as it was not practicable to grasp and withdraw the fœtus, four laminaria tents were put in. The temperature, which had been 99° when the first tents were inserted, was now 102·6°.

July 9th, at 1.30 a.m.—The resident accoucheur was called to her, on account of labour pains having set in.

The temperature was 104·7°. A plug, which had been placed in the vagina, had been expelled: this had been followed by one of the tents, fully expanded, and this by a portion of the fœtus. The resident accoucheur, on his arrival, removed the rest of the fœtus, the remaining tents, and the placenta, all of which were lying loose in the canal formed by the vagina and the dilated cervix. At 10 a.m. the temperature had fallen to 99°.

During the next few days, the temperature ranged between 99° and 102°. There was a good deal of abdominal pain, tympanitic distension, and vomiting. The discharge from the genital organs was slight in quantity, but fœtid. The vagina was syringed out twice daily with Condy's fluid and water. There was no more hæmorrhage from the time of the abortion until thirty-eight days afterwards, when what the patient considered her usual menstrual flow came on. After this she had no return of the bleeding while in hospital.

Five days after the abortion some redness and painful swelling appeared about the angle of the left lower jaw, apparently due to inflammation of the submaxillary glands. This subsided, without suppuration, in about a week.

In the third week after the abortion a firm mass could be felt in the left iliac fossa, reaching about halfway to the umbilicus. This was believed to be the result of perimetritis; and by this, and the glandular inflammation above mentioned, the pyrexia which followed the operation was accounted for.

The temperature fell to normal at the end of the third week; but slight elevations of temperature took place occasionally, without any fresh cause of pyrexia being discovered, up to the time of her leaving the hospital. She was allowed to get up on the thirtieth day. About ten days before she left the hospital she began to complain of pain in micturition; and the urine was now found to be alkaline, and to contain much pus.

She considered that her condition had greatly improved after the abortion, as compared with what it was before

she came into the hospital. Hæmorrhage had ceased; her pain was less, and appetite had improved.

She returned to her home on August 24th, 1877. She died there, on February 2nd, 1878. As the village where she lived was some distance from town, it was not possible to obtain a post-mortem examination.

For particulars of another case, not hitherto published, which will be found in the tables which accompany this paper, I am indebted to Dr. Matthews Duncan. I have also to thank Dr. Clement Godson for some additional facts relating to a published case of his. A case, published by Dr. J. W. Kay, and included in the tables, I saw with him.

Cases in which delivery is obstructed by cancerous disease, whether of the cervix uteri, vagina, external genitals, or rectum, have in common their most important features. These cancerous tumours cannot be pushed aside, nor can they be lessened in bulk by tapping, or any such simple means; when bruised and torn, they have no tendency to repair; as they grow, they produce a cachectic condition of body, and as, until they have made some progress, they are not large enough to greatly obstruct delivery, the patients, in whom they do considerably hinder the birth of the child, are nearly always much enfeebled by this cachexia; and lastly, they invariably, within no very long time, destroy the life of the mother. Seeing, further, that cancer beginning in one of these parts is seldom far advanced without to some degree spreading beyond its original seat, it seems to me that all cases in which cancerous disease obstructs delivery, may, from an obstetric point of view, be properly considered together. Agreeing, as they do, in their broad clinical features and course, the differences depending upon locality, and the consequent modifications in practice, are in comparison slight and easily seen.

This complication of labour is one both grave and difficult, and it is one as to the treatment of which those obstetric authorities to whom the profession in this country is accustomed to look with the most confidence, speak with hesitation. Some writers, it is true, have made more or less definite statements as to what ought to be done; but I think it may be fairly said that there exist no rules recognised by common consent as those which ought to guide practice. The subject therefore is one for the discussion of which no apology is needed.

Fortunately, or unfortunately, cases of the kind do not occur frequently in the practice of any one individual; and therefore it is necessary, in order to estimate from a broad basis the advantages and drawbacks of the different resources at our command in these cases, to have recourse to the recorded experience of others. This has been done by several writers. Hachmann,[1] in 1836, put together 19 cases. Puchelt, in his book[2] published in 1840, a work quoted by many subsequent writers, gives 27 cases. But many of them are from very old writers, by whom medical terms were not used with modern precision: in some of these there is not sufficient detail given to satisfy a critical reader that cancer was present; in others, the facts stated are such as are very rarely met with in cancer; and in others, the disease is expressly stated to have been situated at the fundus, and to have stopped at, or short of, the cervix; cases the cancerous nature of which is exceedingly doubtful, and which, whether cancer or not, certainly should, in drawing conclusions, be separated from those cases in which the growth obstructs the passage of the child. In these opinions I am not alone, for Chantreuil[3] (p. 4) remarks on "the unfortunate confusion which exists in this often quoted work, between the different kinds of uterine tumours which may complicate

1 'Siebold's Journal,' bd. xv, s. 602.

2 'Comm. de tumoribus in pelvi partum impedientibus,' Heidelberg, 1840.

3 'Du cancer de l'uterus, au point de vue de la conception, de la grossesse, et de l'accouchement,' Paris, 1872.

pregnancy." Lever,[1] in his monograph on tumours obstructing parturition, published several original cases, together with some old ones, including those of Puchelt. Dr. West,[2] in his work on diseases of women, collected and tabulated all the then published cases, in a manner more complete and exhaustive than anything which had gone before. But his figures include those of Puchelt: his analysis is not carried to any great detail; and since the last edition of his work was published, many more cases have been recorded, so that I think it is possible now to reason from wider and more accurate premises than Dr. West could in 1862. In 1872 Chantreuil[3] published a monograph containing narratives of 60 cases, many of them admirably full. He, as I have mentioned, rejects most of those given by Puchelt. His work is rather a collection of cases with commentaries on them, than an attempt to systematise and make precise our knowledge of the subject. In 1873 Cohnstein[4] published an elaborate paper, based on 134 cases. I should not have gone to the trouble of making a similar collection, had I not found on examination, that Cohnstein, like some of his predecessors, includes all Puchelt's cases; that he inserts some others, the accounts of which seem to me against the fact of their being cancer; that some cases he has not accurately quoted, and that he does not give enough detail to make it possible to bring out all the facts which I think it is possible to ascertain. I have, however, to acknowledge the great assistance I have received from Cohnstein's table, in finding records of cases. I have quoted from the original in nearly every case; where I could not get at the original, I have mentioned the authority quoted from. My table includes a good many cases not included in Cohnstein's table; some are taken from Chantreuil, whose work

[1] 'Observations on Pelvic Tumours obstructing Parturition, with Cases,' London, 1842.

[2] 'Lectures on Diseases of Women' (Lectures XIX, XX, XXI).

[3] Op. cit.

[4] 'Archiv für Gynækologie,' Bd. v, s. 366.

Cohnstein does not seem to have seen, but many have not been included in any previous table.

I have collected records of 180 cases, and have classified them according to the way in which the pregnancy was terminated; and in each group I have divided the cases into those which ended, as to the labour, favorably or successfully, and those which did not. All cases which survived the puerperal month I have classed as favorable or successful cases; those which died before the termination of the month, as unfavorable, or unsuccessful cases. In a complex condition such as this, it is not always possible to ascertain how far death is due to the labour, and how far to the cancer, even at the post-mortem table; much less when one is dealing with somewhat fragmentary records. Therefore, it is necessary to make a rough division, and I think most will agree, that in cases dying within a month after delivery, it is probable that the casualties of labour contributed to, or accelerated death; and in some it will be seen that this is clearly the case.

My cases include 51 delivered by the natural efforts alone, 35 with success, 16 without; 9 in which delivery was aided with forceps, 5 of them successful, 4 not; 14 in which turning was performed, in 6 cases with a favorable result, in 8 without; 14 in which incisions were made into the cancerous cervix, 11 times with success, in 3 cases without; 12 cases in which craniotomy was performed, 3 times with a favorable result, 9 times with the reverse; 12 cases in which the Cæsarean section was performed, 4 times successfully; 11 cases which terminated by rupture of the uterus; 13 in which the patients died undelivered; 10 in which the cancerous part was removed during pregnancy, and 5 in which it was either removed or spontaneously detached during labour; 20 in which the pregnancy ended in abortion; and lastly, 9 concerning which the information given is too incomplete for classification, although they all illustrate some point in connection with the question.

In a disease such as cancer, in which individual cases

differ so widely from one another, and in which we have no means of accurately measuring its size, stage, and rate of growth, it is not possible, except by working from an immense number of cases, to express with accuracy in a numerical form the general facts derived from them. The wider the differences between individual items, the larger are the numbers required before it can be expected that the differences will neutralise one another. Therefore, although I shall express the facts as exactly as possible, I shall not endeavour to formulate generalisations with the same precision.

Before considering the management of labour, there are some points in the natural history of this condition which seem to me worthy of attention. The first of these is, *the influence of cancer of the uterus upon conception.* Many of the old obstetricians (*e. g.* Mauriceau) were under the impression that conception was impossible when the uterus was the subject of cancer, and several writers upon the subject have thought it necessary to begin by refuting this opinion. Cohnstein[1] goes further, and maintains that cancer rather favours the occurrence of pregnancy. He bases his opinion on the facts, first, that cases of pregnancy complicated with cancer seem to occur in greater number during the latter part of the childbearing period; while these years, in healthy women, are the least prolific. He considers that this reversal, in cases of cancer, of the usual ratio of fertility, is due to a greater aptitude for conception brought about by the cancer. But it appears to me that this is easily accounted for by the fact, that cancer is more common during these years, and that therefore its complication with pregnancy may be expected to be more frequent also. Next he quotes a case in which, with the appearance of cancerous disease, conception took place, after an interval of twelve years of sterility. One case, however, does not prove much. Lastly, he points out, that in some cases cancer has been accompanied with increased sexual desire. But this does not prove fecundity.

[1] Op. cit., s. 369.

Instances of cancer of the uterus occurring before the climacteric are, however, not so rare but that, if this disease at all favoured conception, cases of its complication with pregnancy would be more frequent than they seem to be. Of the 180 cases which I have collected, in many the symptoms of disease first appeared during pregnancy, and therefore the number of those who conceived while suffering from uterine cancer would be represented by a smaller figure. D'Outrepont[1] remarks, that it is difficult to understand the development of an ovum in a uterus, the body of which is the subject of cancerous disease. And it would seem both possible and probable, that where there is so much new growth, and consequent swelling of the cervix as to hinder the exit of the menstrual fluid,[2] the same cause may prevent the entrance of the spermatozoa. These considerations lead me to think that there is some ground for the opinion of the older authors; and that such influence as cancer of the uterus has upon conception is adverse to its occurrence.

I wish next to remark upon *the influence of the cancerous cachexia upon the life of the child*, irrespective of the risks attending the process of delivery.

My table of cases includes twenty in which the pregnancy ended in abortion,[3] but in two of these it was artificially induced.[4] Hachmann[5] says that probably a great many of the copious losses of blood which accompany uterine cancer, are really unrecognised abortions. This is a supposition very difficult either to verify or to disprove; but it unquestionably has this basis of probability, that abortion may very easily be overlooked, or we may

[1] 'Abhandlungen und Beitrage Geb. Inhalt,' 1822, Erns Theil, s. 276.

[2] Bernutz and Goupil, 'Diseases of Women,' vol. i, part 1, case xxii.

[3] The term abortion is here used to denote that the ovum was discharged before the fœtus had reached a viable age. By premature labour is meant delivery at any time between the sixth and ninth month.

[4] According to Whitehead the average frequency of abortion in women generally, is rather more than one to every seven pregnancies.—('On Sterility and Abortion,' p. 245.)

[5] Op cit., s. 621.

be unable to prove that it has taken place; that among the poorer classes, among whom the cases reported in medical journals usually occur, it often does take place, without the patient thinking it necessary to seek medical advice, and that the symptoms of cancer may mask those of early pregnancy, while the cancer is enough to account for such symptoms as usually accompany early abortion; and therefore I am disposed to think, that the actual frequency of abortion may be greater than is represented by these 18 cases.

Putting aside these 20 cases of abortion, and excluding also those instances in which the mother died undelivered, or in which rupture of the uterus took place, those cases in which the means used for delivery were such as to sacrifice the infantile life, and those in which the cancerous part was removed during pregnancy (for in them the development of the disease, and consequently its effect on the system, may be supposed to have been interfered with), there remain 114 cases.

Of these, in 34 labour came on prematurely; 23 went to their full time; in one labour was prematurely induced, and in the remaining 56 the period of pregnancy at which delivery took place is not stated. It would seem, therefore, that cancer tends to produce premature expulsion of the embryo; and as the chances of life of premature children are less than those of children born at term, in this way the existence of cancer is inimical to the child's life.

Out of the 114 children, 58 were born alive, 36 dead; in 20 the fate of the child is not mentioned. Out of the 36 dead, 12 are stated to have been decomposing; in them, therefore, the death was quite independent of the process of labour. In the remaining 24 the cause of death is not stated; but of these, the unduly large proportion of 13 were premature. Now, were the deaths due simply to the effects of protracted labour, one would expect the greater mortality to be among the bigger children, which is not the case. If we examine the kind of labour with these 24

dead children, it is found, first, as to time, that in 7 the labour occupied less than 48 hours, and in 4 out of this 7, less than 24 hours. In 8 it lasted more than 48 hours, and in the remaining 9 its duration is not stated. Therefore, although in some the labour was very protracted, yet it was not so in all. Next, as to the kind of delivery, 11 were delivered by natural efforts, 6 by turning (in one case combined with incisions), 3 by forceps combined with incision of the cervix, one by Cæsarean section; one was a footling case, the head being delivered by forceps; the facts of the other cases are not mentioned. It is probable, therefore, that the deaths of some of these children took place in the process of delivery; but in some there are no facts to account for death so caused. Owing to the fragmentary nature of the reports, it is not possible to arrive at the proportions. Looking at the facts in another way:—out of the 35 premature children, 15 were stillborn; out of the 23 at full term, 5; and out of the 56 whose intra-uterine age is not stated, 16 were stillborn; in other words, a mortality of 42·8 per cent. among the premature children, 21·7 per cent. among those born at term, and 28·5 per cent. among those whose degree of development is not stated.

These facts, I think, all tend to show that, in cases of pregnancy complicated with cancer, there is a considerable infantile mortality which is not due to circumstances connected with labour, but to causes acting before birth, death either occurring in utero before the commencement of labour, or being due to the feeble vitality of the prematurely expelled children. It is also probable that, had information on the point been given in all cases, it would have been found that a larger proportion of the children than appears had died in utero.

It therefore seems to follow that the cancerous cachexia tends, *per se*, to produce, not only the premature expulsion, but the intra-uterine death of the child.

Another point which seems to me both of interest and importance is, *the influence of pregnancy upon the cancer.*

It is stated by some writers, that during pregnancy the cancerous disease remains in abeyance, that there is a diminution in its symptoms and in the rapidity of its progress. With whom this belief originated I do not know, but it is quoted as a fact by several authors. Other writers, among them Chantreuil[1] and Barnes,[2] take the opposite view, that pregnancy makes the cancerous growth more active. This is a question on which it is very difficult, if not impossible, to get direct evidence. In only a minority of my cases is the duration of the disease mentioned; and in these, the dates are not fixed with much precision. But even if data could be got at, by which the average duration of cases complicated with pregnancy could be compared with that of cases not so complicated, the comparison would not have much value; for, first, the contingencies of labour would vitiate any conclusion drawn in favour of the view taken by Chantreuil; and next, although cancer undoubtedly has an average, yet individual cases depart so widely from that average, that a very large number of cases would be needed to establish any law of this kind. The belief that the growth of cancer is retarded during pregnancy, is to some extent supported by some cases in which symptoms were slight or absent until delivery, when the disease was found to be advanced. Although my table includes a few of this kind, there are none in which, cancer having been present before pregnancy, any abatement of symptoms followed conception. The only piece of direct evidence that I have been able to find, is a case by Spiegelberg,[3] who says, "I saw a commencing small cancroid of both lips of the os remain constant, of the same extent and form from three months pregnancy to delivery at term; in labour it caused very little disturbance, and after that grew more quickly."

But I think that every consideration derived from what we know of the conditions influencing the process of

[1] Op. cit., p. 24.

[2] 'Clinical History of Diseases of Women,' 1st edition, p. 830.

[3] 'Lehrbuch der Geburtshulfe,' s. 295.

growth, and the progress of disease of other kinds and in other parts, tends to support the opposite view. We know that an abundant blood supply favours cell growth, and that a deficient blood supply hinders it. We know that the most vascular cancers are the most rapidly growing. Therefore I think we should expect the great afflux of blood to the genital organs in pregnancy to be followed by an increase in the rate of growth of cancerous disease in that part. A case is recorded by Mattei[1] which affords direct evidence of this in the case of the breast. In a patient, aged 42, during the early months of pregnancy, a small induration was perceived in the left breast, and this distinctly increased in size up to the ninth month. It was painful, and the pain went down the left arm. After delivery, the right breast secreted milk freely, but the left remained small. The induration then ceased to increase, but no treatment was successful in making it disappear. Six months after delivery she again became pregnant, and during this pregnancy the left breast became larger and harder, and an induration became perceptible in the right breast. The left breast then began to ulcerate, and its cancerous nature became unmistakable. Mattei remarks upon its excessive increase with the mammary congestion of pregnancy.[2] In one case in my collection (97) it is stated that the symptoms became aggravated after conception had taken place. But the course of the cases after delivery throws more light upon the subject. Those which recovered from the labour generally recovered well, without a bad symptom, and in many of them great relief and improvement is recorded as having followed the removal of the developmental stimulus. Thus, in one of Robert Lee's cases (22), it is said that "pain, discharge, and other symptoms, almost entirely disappeared for several months after confinement." In the case (31) recorded by Bagli and Cazal, it is said that the patient after delivery "regarded herself as cured." In Oldham's case of

[1] 'Clinique Obstetricale,' obs. cclxxviii.

[2] See also 'Brit. Med. Journ.,' Sept. 7 and 28, 1878.

Cæsarean section (101) the patient had suffered most severely during pregnancy; but six weeks after the delivery it is stated that "the disease had shrunk somewhat, the discharge was not very abundant, she had been free from the ordinary cancer pains, and her general health was well supported." In Greenhalgh's successful case of the same operation (102), it is said that "for more than six months after the operation, the disease, which was advancing rapidly, underwent considerable improvement, the hæmorrhage and pain ceasing, and the local affection dwindling to an almost inappreciable degree." In my own case, already narrated, of induced abortion, the relief to symptoms was very marked. Other cases might be quoted, which agree with these, although the facts are expressed in a less striking way (1, 4, 32, 36, 37, 38, 137, 138). Now when we remember, that it is more common for cancer of the uterus to be unattended with symptoms in the early than in the late stages of its progress, it seems to me that these cases tell much more strongly in favour of the view of Chantreuil and Barnes than cases in which symptoms were absent during pregnancy do against it. And that even when we find that no relief, but rather aggravation, followed labour, it can be accounted for by the injuries received in the parturient process, and by the natural course of the disease, without resorting to the theory that it is in consequence of the withdrawal of an inhibiting agency. Therefore I think that Spiegelberg's single case is an exceptional one, and that the rule is, that cancer of the uterus grows faster during pregnancy than at any other time.

There is an effect of pregnancy upon cancer of the uterus, upon which stress has been laid, as being of value in diagnosis. I mention it, although I cannot throw much light upon it, in the hope that others may do so. Chantreuil[1] gives as one of the characters of non-malignant induration, that it softens towards the end of pregnancy, and in opposition to this speaks of the hardness of can-

[1] Op. cit., p. 57.

cerous disease. Scanzoni,[1] on the contrary, says that during pregnancy cancer softens, while hypertrophy of the cervix remains hard. In one of Madame Boivin's cases (1), she mentions that as pregnancy advanced, the cancer became softer; and Dr. George Roper, who has seen and put on record some cases of labour complicated with hypertrophic elongation of the cervix, tells me that in them the cervical tissue remained of grisly hardness throughout pregnancy. The testimony of those two good observers is therefore in favour of Scanzoni's view.

That cancer of the uterus when in an early stage, and only affecting a small portion of the os, may allow delivery to take place without hindrance, I think hardly needs proof. That few cases of the kind are recorded, is possibly partly due to the difficulty of diagnosis of commencing cancer. Uncertain as this is in the non-pregnant condition, it is probably still more problematic when the changes due to pregnancy coexist. Chantreuil[2] says, "We doubt if there is any observer who can affirm, from a simple physical examination of the cervix, however perfect, that cancer exists before the period of softening has arrived." Through the kindness of Dr. Matthews Duncan, I have seen two cases of cancer of the uterus in which delivery had recently taken place, and in which the disease was so far advanced, that Dr. Duncan judged that it must have been present before labour. But I ascertained from the medical men in attendance, that in neither case was cancer suspected at the time of labour. In one case nothing was noticed wrong with the os uteri, in the other only some rigidity. (As, however, there is no direct evidence that cancer existed, I have not included these cases in my table.)

Spiegelberg[3] says, "If the disease be confined to one lip, so that in the circumference of the os there yet remains a part unaffected by it, and dilatable, there may

[1] 'Lehrbuch der Geburtshilfe,' 2te auflage, s. 467.

[2] Op. cit., p. 57.

[3] Op. cit., s. 513.

be no difficulty in the labour, the stages of dilatation and expulsion progressing without disturbance." This statement, although perfectly correct so far as it goes, yet requires to be supplemented by others. An examination of the cases I have collected, shows, first, that even with cancerous disease so advanced as to affect the whole circumference of the os, labour may be short and easy; delivery may take place by the natural efforts alone; and after delivery under such circumstances, the patient may recover without a bad symptom, and life be subsequently prolonged for months. Thus in a case reported by Benicke (12), there was advanced carcinomatous degeneration of the whole lower part of the uterus and the vaginal wall, the solid infiltration being felt extending to the wall of the pelvis, and Cæsarean section was thought to be unconditionally indicated. But, after hardly any pains, a dead child, of about eight months intra-uterine age, was found between the patient's thighs. In a case quoted by D'Outrepont (35) on the authority of Delbech, the cervix uteri is described as having been entirely destroyed; in place of it was a broad ulcer with uneven and fissured edges, in which the os uteri could not be distinguished. Nevertheless, after seven hours' labour, a fully developed child was born. The mother recovered well, and lived five months afterwards. Other cases might be quoted (21, 31), showing the same thing, that in disease affecting the whole os uteri, labour may be quick and easy. The converse proposition is also true, that a cancerous tumour may seriously impede labour, even though a part of the os be healthy. Thus, in a case reported by Arnott (3), the posterior third of the os uteri was thin, soft, and dilatable, but the labour lasted two days and a half; and in a case recorded by Boivin and Dugés (1) the posterior lip of the os is said to have been supple, but the labour lasted several days. Out of the 51 cases delivered by the natural efforts alone, in 15 the disease is said to have been confined to a part of the os. Of these, in 2 the labour was over in less than 24 hours; in 2 it lasted between 24 and 48 hours; in 2, 60 hours;

in one 4 days, and in one several days. In 13 the whole circumference was affected. Of these in 5 the labour was over in less than 24 hours; in 2 it lasted between 24 and 48 hours, and in one more than 48 hours. I think these facts show, that the mere linear extent of the cancer round the os, is not by itself a criterion from which the amount of difficulty that will attend the labour can be predicted. What the criteria are will be considered further on.

Before considering the groups of cases in detail, it will be convenient to get some general facts from them as a whole. The first point I propose so to examine, is *the cause of death* after delivery.

There are 40 cases in which death followed within a month after delivery. Of these, in one (77) death is said to have taken place by simple collapse, 29 hours after delivery. Two others seemed to die in the same manner, one (74) 24, the other (61) 2½ hours after delivery, but in them peritonitis was found, which was judged to have been present before the commencement of labour. Three died from post-partum hæmorrhage, in one case (69) it is not stated when; in the others, one day (78) and 6 days (66) respectively, after delivery. Two apparently died simply from exhaustion, one (81) 13, and the other (75) 14 days, after delivery; and another (63) died in 4 days from exhaustion, the result of incessant vomiting. Four died from peritonitis, in one case (94) one day, in another (99) 4 days, and in two (62, 92) 5 days, after delivery; in one of the latter (92) bronchitis and albuminuria were present before labour. Three of these cases were delivered by craniotomy. One patient (76) died from gangrene of the cancerous tissue and pyæmia, 13 days after delivery. In one case (82) the cause of death is vaguely described as "acute puerperal fever," which carried off the patient in 4 days. In one (96) delivered by craniotomy, gangrene of the cancerous tissue was found, the patient had survived delivery 8 days. One patient (86) died 4½ days after labour, and empyema and gangrene of lung were found post-mortem, but no condition of the pelvic organs

was discovered to which this could be attributed. In the remaining 23, the immediate cause of death is not stated. In one it took place half an hour after delivery; in another within a day; in 3 within 3 days; in 2 within a week; in 3 others within a fortnight; in 2 during, and in one at the end of, the third week. In the other cases the period at which death took place is only denoted by the expressions "immediately" (one case), "not long" (one case), "soon" (3 cases), "a few days" (one case). In the remaining 4 it is merely recorded that the mother died, without any details as to when or how.

Scanzoni says that patients with this disease, as a rule, suffer after delivery from a peculiarly malignant form of puerperal fever.[1] The facts here given do not show that there is any form of puerperal disease special to cancer. That cancer of the uterus often causes peritonitis, even independent of pregnancy, has been long known. But there is no evidence that peritonitis from cancer has about it anything especially malignant.

The next point is, the *duration of life after delivery* in those cases which survived the immediate risks of labour. It has been said that the violence to which the cancer must be subjected, makes it go on rapidly to a fatal issue, and, therefore, it is well to take a general survey of the facts bearing on this point. In considering the figures which follow, we must bear in mind, that all these were cases in which the cancer, at the time of labour, was advanced enough for its nature to be quite indubitable.

It is found that 2 lived a month only (in one craniotomy had been necessary, and the other was complicated with colotomy), one 40 days (complicated with erysipelas), two 6 weeks, one 9 weeks, one more than 2 months, three survived 3 months, and two more than 3 months, three 4 months, two 5 months, two more than 5 months, in two the period is vaguely stated as "a few months," and in three the expression is "some months," three lived 6 months, and one more than 6 months, two sur-

[1] Op. cit., p. 468.

vived 8 months, and one 10½ months, one lived a year, and two, more than a year, one 14 months, two more than 2 years, and one more than 3 years. In one case the patient became pregnant 3 times, and in two cases, twice, while suffering from the cancer. It should be explained, that where the duration of life is given in the words "more than" such a period, it means, not that death took place soon after that date, but that the course of the case was only observed for that length of time; it may have been that the patient survived far beyond the period mentioned. When we remember also, that in cases in which death took place soon, the occurrence would be more likely to come to the knowledge of the medical attendant, than if it had happened at a more remote period; and, therefore, that those cases in which the length of survival is not stated, probably contain an undue proportion of those who lived a long time afterwards; I think it will be evident, that if the quoted cases erroneously represent the average duration of life in the class of patients in question, they do so, by understating it. I think it probable that they do understate it. These facts do not seem to me to support the belief in question.

Coming now to the process of labour itself, it is important to ascertain, *in what way, when left to nature, is the hindrance to delivery formed by the cancerous cervix, overcome?* In 7 cases (2, 6, 7, 8, 61, 62, and 179) spontaneous tearing of the cervix uteri took place. In three others (9, 19, and 20) the account given is, that while dilatation of the os was going on slowly, and was yet insufficient to allow the passage of the fœtus, the obstacle seemed suddenly to give way, and birth quickly took place; but fissures in the os were either not looked for or not noticed. It would seem probable that in these cases also, the sudden cessation of resistance was due to laceration of the opposing part. In 9 cases (3, 4, 17, 23, 25, 27, 72, 172, 174) the os is said to have dilated, no mention being made of any fissuring, and in one of them

(3) it is expressly stated that no laceration could be discovered. In some of them, however, the disease only affected a part of the cervix uteri, and the dilatation took place at the expense of the healthy segment. In two cases (1 and 176), in which the disease formed a circumscribed tumour, the healthy part of the cervix dilated, and the diseased mass was pushed aside, and compressed between the head and the pelvic wall. In one (16) the disease formed a large cauliflower excrescence, which filled the whole vagina, and obstructed the passage of fæces and urine. As the head came down, this was forced out of the vulva, and after the child had passed, it again returned into the vagina. In 2 cases (170, 171) the disease, or a large part of it, was altogether detached. In Meigs' case (170) the whole mass, forming two fifths of the circumference of the os, came away in the hand of the medical attendant. In Lever's case (171) a very large piece of the diseased mass was torn away, and forced before the head of the child, a chasm being left so large that the hand might readily have passed into the uterus. Of the remaining cases in which labour was terminated by natural efforts, no accounts of the mode in which it was accomplished are given.

The facts given clearly show that, in cases in which dilatation of the os uteri will not take place, nature's mode of surmounting the difficulty is by the formation of fissures in the os uteri, and these fissures may run in such a direction as to entirely separate a part of the disease.

As to the period at which such fissuring takes place, in two it was after 12 hours' labour, in one after 30 hours, in four after 2 days, and in one after 4 days' labour; in the others the time of its occurrence is not recorded. I think it may, therefore, be said that this tearing does not, as a rule, take place readily, but only after the cervix has been subjected to prolonged strain.

Out of the 12 cases in which laceration thus took place, in one the termination is not recorded. In 8, the fissuring was not accompanied by hæmorrhage or any other

bad symptom. In one patient (61) considerable bleeding accompanied the tear, and the patient died in collapse two and a half hours afterwards; but on post-mortem examination peritonitis was found, which evidently had been present before the laceration. In another (62), no bad symptoms immediately followed the rent, which, indeed, appears not to have been perceived at the time; but the patient died from peritonitis five days afterwards. In Meigs case, although there was much hæmorrhage in the early part of labour, yet no great increase of bleeding followed the separation of the tumour. The patient died twenty-four hours afterwards, apparently from shock. In Lever's case, the patient lived six months afterwards. I think, therefore, that looking at these cases, and comparing them with the other cases, we may further say, that the formation of such fissures does not augment the risk to the mother; and in so far as it expedites delivery, its occurrence must be beneficial both to mother and child.

The cases in which delivery was aided by *forceps*, do not call for much separate comment, although they of course need to be divided from those in which the labour was left entirely to nature. The only function of the instrument in these cases, is to supplement insufficient uterine action, and so hasten delivery. The diseased tissues must dilate or tear about as much to allow a head to be pulled through by the forceps, as to be driven through by natural efforts. The process is more sudden, but in other respects the same. It will be conceded, therefore, I think, that the forceps has no peculiar appropriateness in this class of cases; that a case of the kind which can be terminated successfully with forceps, may, if the pains are strong enough, be delivered without them.

Examining these 9 cases, we find that in one (76) difficulty was anticipated from the beginning; the first stage of labour was assisted by water dilating bags, and the delivery was finished with forceps. This patient died from sloughing and pyæmia. In 4 cases traction with the instrument was employed to dilate the os; in 3 of them

(36, 37, 74), because uterine action was deficient, in the other (39) because pains were ineffectual, though violent. In 3 (38, 75, 77) the forceps seem to have been applied after the cancerous os had been passed. The cases do not show a greater risk attending their earlier application. They include cases (36, 37, 39), which prove, that even in cancer of the cervix so extensive and hard, that after long continued uterine action its dilatation does not take place, the head may be forcibly drawn through with forceps, and the patient may recover.

In 3 of the cases delivered with forceps, laceratiou of the cervix took place. One (37) recovered; one (74) died 24 hours afterwards from peritonitis, shown by the post-mortem appearances to have been present before delivery; and one (75) from exhaustion, 14 days afterwards. In none is there any account of hæmorrhage following the lacerations.

The cases delivered by *turning* are 14 in number. Of these 6 recovered, 8 died during the puerperal month. In cases of transverse presentation of course the only question is, whether, if the position of the child be altered, delivery can take place *per vias naturales*. If this question be answered in the affirmative, the operation of turning becomes one not of choice, but almost of necessity. Version may also be thought of as an alternative to forceps, in cases where it is desirable to accelerate labour. Goodell, considering the relative advantages of forceps and turning in pelves contracted in the conjugate diameter, and in pelves small in all dimensions, argues that in the round, *i.e.* generally small pelvis, the forceps is more suitable than turning. In the case under present consideration, mechanical conditions are of minor importance; nevertheless, looking at the question mechanically, it seems to me that Goodell's arguments here apply; and that if it be necessary to interfere with the object of accelerating delivery, forceps will, in cases where the obstacle consists of the rigid ring of a cancerous os, be more suitable than turning. But I think more important considerations are, that if the ope-

ration of turning should present any difficulty, prolonged manipulation may be necessary, and possibly the hand may have to be forced through the cancerous os; and that, therefore, the operation itself may involve considerable additional violence to the diseased parts. It is probable that by forcing of the hand through the os uteri, and subsequent dragging through of the child, greater injury will be inflicted than by steady traction with forceps. On both mechanical and surgical grounds, the forceps seem to me, in such cases, the preferable means of expediting delivery. This is illustrated by one case (79), (a transverse presentation), in which the uterus was so extensively torn, in attempts to turn, that loops of intestine came down. In another case (41) it is recorded, that as the head passed, the cervix was torn slightly in several places, but no bad symptoms followed. In another case (85), which I have quoted from Cohnstein, it is said that rupture of the uterus took place; but I have not been able to find any details to show what is meant by this, whether merely laceration of the cervix or a rent opening into the abdomen.

Out of the 14 cases, in 6 turning had to be performed on account of transverse presentations; in the others, either it was resorted to simply to accelerate labour, or the reason is not stated.

Comparing the two operations of forceps and turning, with regard to the fate of the child, we find that of the 9 forceps cases, 5 children were born alive, 4 of them being premature; 3 were dead, all of them decomposing, the fate of the remaining one is not stated. Of the 14 delivered by turning, 4 were living, one of them premature; 6 were dead, two of them decomposing, and the result as to the other 4 is not stated, So far as they go, these results show that the forceps offer a better prospect for the child, which is what we should have expected, knowing the greater risk to the infant that ensues whenever the pelvic extremity comes first, a risk not in most cases of this kind balanced by a corresponding advantage.

In 14 cases *incisions* were made into the cancerous

cervix. Of these, 11 recovered, and 3 died. Of the 3 which died, in one (86) the making of the incisions was not successful in procuring rapid delivery, the child not being born till $2\frac{1}{2}$ days afterwards. But no pain or hæmorrhage followed, and there were no appearances, although they were looked for, to show that the incisions had anything to do with her death, which took place $4\frac{1}{2}$ days after delivery. In another case the incisions were not made till the patient, after 3 days labour, was extremely weak and exhausted; they were, however, most effectual in procuring the desired end, for delivery was completed by 5 more pains. Of the other fatal case, no details are given. Of the 11 cases in which the event was favourable, of 3 (55, 56, 57) we have no detail, and in one (54) the cancer was confined to the recto-vaginal septum. In the other 7 the incisions were made because the labour had lasted long, (in the cases where the time is mentioned, 2 or 3 days), either with very slight, or without any dilatation of the os uteri; details being given in 5 out of the 7 (47, 50, 51, 52, 53), which show, that there was sufficient disease of the cervix to account for this obstruction. In 4 of them (47, 50, 51, 52) it is expressly stated that either none, or very slight hæmorrhage followed. In 10 out of the 11 delivery was finished with forceps, in the other by traction on a presenting foot. It has been said that "where incisions are necessary in cases of cancer, it is found that afterwards the disease makes much more rapid progress than before."[1] This is a statement, like those concerning the progress of cancer during pregnancy, exceedingly difficult either to prove or to disprove; for, although we know the average duration of cancer, yet individual cases, not complicated with pregnancy, depart so widely from the average, that a very large number would be needed to test any point of this kind. But I have before given evidence in support of the view, that the removal of the developmental stimulus is followed by a remission in the symptoms, and I see no reason for supposing that incisions should be followed by worse results than the bruising and tearing

[1] Meadows, 'Manual of Midwifery,' 3rd edition, p. 319.

which take place if incisions are not made. As to duration of life, the cases treated by incisions compare well with those treated in other ways. One case died from erysipelas, 40 days after delivery; one lived 3 months; another a time not stated exactly, but more than 3 months; another, "a few months," one 4 months, one 6 months, one 10½ months, and one 2 years. When we bear in mind the extent of the disease the presence of so much resistance to delivery implies, there seems no reason for thinking that in these cases the progress of the disease was accelerated.

Putting together the cases in which incisions were made, with the 17 cases in which laceration spontaneously took place, we have 31 cases, in which the cancerous cervix was either cut or torn. In only one did considerable hæmorrhage take place, and in this case the death was not due solely to the laceration. In one, the rent extended too far, opening the peritoneal cavity; an accident that might possibly have been prevented by the united yielding of several small incisions, had they been made. Seven others died, but there was nothing to specially connect the death with the cervical wounds. Of one case, the result is not mentioned. There are no cases in which any evil result directly followed from incisions, and but two in which immediate ill consequences followed lacerations; and in one of these, those consequences seem as if they might have been prevented by incisions. Remote ill effects seem to me wholly unproved, and *à priori* improbable. I think that clinical evidence supports the assertion, that the special dangers attending laceration of the cancerous cervix during labour, are very slight, and those attending incisions still less; that their effect is beneficial, for they aid dilatation of the os, and thus expedite delivery, and diminish the amount of the bruising and duration of compression of the cancerous tissue; in each of these ways adding to the patient's chance of recovery. And if they expedite delivery, it is manifest that they lessen the risk to the child, if it be alive.

A point as to which the facts are few, but which seems to me important, relates to the use of water bags in these cases. In 4 cases (76, 89, 100, 163), they were used to dilate the cervix. Of these, two died, and the two which recovered suffered from severe pyrexia subsequently to delivery. It seems to me that in these cases, incisions probably do less harm than the prolonged pressure of the india rubber bag. These cases, so far as they go, tend to support this view. It may possibly be sometimes advantageous to use both means, to dilate with the bags, and aid expansion by incisions.

In 12 cases delivery was effected by *craniotomy*. Of these, three only survived the puerperal month, and in one of these, sloughing of part of the growth followed. An examination of the details shows that in most of these the operation was performed under very unfavourable circumstances. Some patients were exhausted by prolonged labour; in others the diseased parts had been irritated, bruised, or torn by the means previously employed, more than probably would have been the case had the earlier part of labour proceeded in a natural manner; and in some the length of the operation, or the smallness of the aperture through which the head had to be dragged, bear testimony to the difficulty of the operation, and therefore, inferentially, to the great amount of local violence which must have been unavoidable. Thus in 3 of them, turning had been previously performed, and in one of these, the subsequent traction detached the trunk, so that the retained head was left for separate extraction. In two, Barnes's bags had been used to accelerate the first stage. In one case, incisions had been made without effect, and in another, extraction was impossible until incisions had been made. In one, the operation of perforation and extraction lasted four and a half hours, in another, three hours, in another, two and a half hours.

Two remarkable cases, which, as embryotomy was performed, are classed here, will be subsequently referred to.

Cæsarean section was performed in 12 cases. (In one

of them (103), however, the cancerous nature of the disease is very doubtful; for the mass which had obstructed delivery subsequently disappeared[1]). Of these 12, 8 died, 4 recovered (one of them the doubtful case). Of the children, 2 were dead, one of them being decomposing, and another, though extracted alive, died immediately afterwards. In 5 cases the pregnancy had advanced to term, in 4 it had reached 8 months, in 1 between 6 and 7 months, and in 2 its duration is not stated. The 3 indubitable and successful cases had all reached term. In 2 cases the operation was performed before labour had commenced, one of these was successful; in 8, not till after labour had set in; in 2, information is not given as to this point. The cause of death was, in 3 cases (106, 108, 112) peritonitis; in 2 (110, 111) loosening of the uterine sutures, and consequent gaping of the uterine wound. In one (107) it was exhaustion from excessive vomiting, in another (108), gangrene of the cancerous tissue. The duration of life in the successful cases is not stated. The marked relief to the symptoms which followed in two of them has already been commented on.

In 11 cases *rupture of the uterus* took place: all of them died. In two of them (113, 120) the rupture was incomplete, and in another (117), although it is said that symptoms of rupture of uterus were present, yet it is not clear that anything more than laceration of the cervix took place.

In 6 cases the rupture took place after vigorous and prolonged uterine action, in 1, after the labour had lasted 12 hours, in another after 36 hours, in another after 2 days, in one after 3 days, and in one the length of labour is stated as "some days;" in the other the pains are described as "strong." In one case, however (123), the rupture took place with the fourth pain. One patient is merely said to have been in labour. In one a fibroid was discovered post mortem.

These cases, like others which have been put on record,

[1] See Barnes, op. cit., p. 830.

show that rupture of the uterus does not invariably result from insuperable obstruction to delivery, causing the uterine fibre to give way from the violence of its own ineffective contractions, for in one of them it followed the fourth pain, and in 3 of them the child was extracted *per vias naturales* after the rupture; but of these, in one the presentation was transverse, and in the others it is not stated.

There are 13 cases in which the patients *died undelivered*. Of these, four died without any signs of labour; one (135) suddenly, 6 months pregnant, the cause not being stated; one (134) from diarrhœa and hectic, 5 months pregnant; one (131) from hæmorrhage and vomiting, and one (132) from peritonitis. Scanzoni mentions another case[1] (the details of which are so scanty that I have not put it in the table), his patient died from hæmorrhage, but whether in labour or not he does not say. There are two cases in which abortive attempts at labour came on; in one (130), they came on more than once, the patient dying of peritonitis; in the other (127) they lasted half a day, the patient died 3 weeks afterwards. In six cases labour came on vigorously, in one (129) the os had dilated to the size of half-a-crown when the patient succumbed; in one (124) no dilatation took place, and the patient died from peritonitis and metritis 7 days after the escape of the liq. amnii; in one (133) the uterus seemed, without distinct pains, to be in a state of tonic contraction; there was no dilatation, and Cæsarean section was intended, but the patient was so exhausted from hæmorrhages and discharges, that the idea of it had to be given up. In one (128) perforation was performed, but after many fruitless efforts at extracting the child the patient died. In another (126) the pains continued, on and off, for a month, the uterus being in a state of stony hardness from chronic contraction; there was at last a little dilatation, but before delivery could be accomplished the patient died. One patient (136) died 20 days after the

[1] 'Lehrbuch der Geburtshilfe,' 2te aufll., s. 467.

commencement of labour pains. Lastly, there is the extraordinary case of Menzies (125) in which the child was retained 17 months, irregular pains like those of labour continuing with varying severity for 7 months before death. With this case may be associated the two cases referred to in the craniotomy group; one case (90) given by Menzies, in which embryotomy was performed, and the fœtus expelled in fragments during the next 3 months, and one (96) by Depaul, in which pains came on at term, and lasted about a month, the os then dilated to about the size of a five franc piece, and the child was extracted by disarticulation, the pregnancy being supposed to have reached 10½ to 11 months. The mother died from peritonitis and gangrene.

In those cases in which death took place after prolonged labour, and in those cases of rupture of uterus in which it followed the same antecedent, I think we may take it that we have those cases in which the obstruction caused by the cancer reached the degree of being insurmountable, and therefore by studying them, we may get some information as to what are the characters of the cancerous cervix which give rise to the greatest amount of obstruction. Of the 6 cases of ruptured uterus in which this accident happened after protracted labour, in three it is not clear that the rupture was due to great obstruction at the os. Of the other three, in one (119) the condition is thus described by Oldham: "The disease had already destroyed a considerable portion of both lips of the os uteri, leaving a hole big enough to admit two fingers; it was unusually hard and rigid, the anterior wall felt like a mass of hardened mortar." In another (120) it is said that there was "an enormous scirrhous tumour, which occupied the whole neck and lower part of body of uterus, obliterating the orifice; the borders of the os were extremely hard." In the other (121) there was "a tumour which almost entirely filled up the vagina." Of those which died undelivered after prolonged ineffectual labour, there are 7 cases. In two of them (124, 125) the epithet used

to describe the condition of the os is, "as hard as cartilage"—"cartilaginous." In another (126) the cervix is described as of "woody hardness." In one (129), Ramsbotham says the cervix was "exceedingly indurated." Another (133) Oldham mentions was "particularly hard and unyielding." One case was one of cancer of the vagina, forming a considerable tumour; and the remaining one, the disease formed a large fleshy tumour, the largest which Denman had ever seen, it was so large that there was no possibility of the head passing it.

We see that in these cases either unusual hardness is mentioned or a very large tumour is spoken of. As we have no means of expressing quantitatively the degree of hardness, or even of measuring the extent and size of cancerous disease of the os, it is not possible to be very precise on this point. We have seen that the linear extent of the disease around the os is not a sufficient guide to the probable difficulty of the labour, for in disease affecting the whole circumference of the os delivery may be easy. We now see that unusual hardness of the growth, or unusual size of the tumour formed by it, are the conditions under which the hindrance to delivery becomes insurmountable; and we should therefore think that in trying to forecast the probable difficulty of delivery, these are the points to which attention should be paid. The hardness would seem the more important, for it may be possible to remove a tumour.

Twenty cases ended in *abortion:* in two of them it was artificially induced. As to the time of the abortion, in one it was at two months, in one between two and three months, in four at three months, in two between three and four months, in four at four months, in two between four and five months, and in two at five months; in the remaining four the period of pregnancy is not stated.

In six of the cases the miscarriage was accompanied with severe hæmorrhage, but in only two of them did it appear that the hæmorrhage directly accelerated death. As to the length of survival after the abortion, one patient

is said to have died "shortly after" this event, one four or five days afterwards, one lived some weeks, one seven weeks, and one eight weeks afterwards, one survived three months, two four months, one five months, one more than six months, one seven months, one ten months, one a year, and one two years. One of the patients aborted three times, and one twice, while suffering from uterine cancer.

Taking these cases as they are they show that abortion is not attended with so much risk to the maternal life as is labour at term. But for reasons previously given I am inclined to think that Hachmann's supposition may be true, and that these twenty cases probably include an exceptional proportion of cases accompanied with remarkable features. It is to be further observed that if (as I have endeavoured to show) the cancerous cachexia has the effect of bringing about intra-uterine death and premature expulsion of the ovum, we should expect this tendency to be strongest in those cases in which the cachexia is the most advanced, and therefore that abortion would be most likely to occur in the worst cases. Judging by the analogy of other diseases we should think that abortion may in such be more correctly called a precursor than a cause of death. Those cases in which death took place very soon after abortion rather bear out this view (147, 152).

It is to be noted that in the two cases (138, 151) in which abortion was induced, the hæmorrhage was not considerable, and the relief to symptoms was marked.

There are *ten cases in which the diseased part was removed during pregnancy*. In one case (163) it was done at the end of the first month of pregnancy, the patient went to the full term, but the disease had returned before delivery. In one case (165) it was removed in the second month of pregnancy; this patient went to term and had an easy labour. In four the operation was performed about the fifth month; one of these (158) aborted the next day, one (166) went to within five or six weeks of term, and the other two (160, 162, in one of which (162) Douglas's pouch

was opened at the time of the operation) went to term, all recovered well. In one case (161) the tumour was removed at the sixth month, Douglas's pouch being opened; this patient was delivered of a dead child eleven days afterwards. In one case (159) the operation was done at the seventh month, labour came on a week afterwards. In one case (164) it was performed at the eighth month, a dead child was born eight days afterwards. The remaining patient (157) had reached nearly the end of pregnancy, labour came on five days after the removal of the growth.

It thus appears that in only one out of ten cases was the operation immediately followed by abortion, and that five out of the ten were delivered at full term.

There is, therefore, evidence that the diseased part may be removed during pregnancy without any great risk of inducing abortion. As to the risk of hæmorrhage, in none is any considerable loss of blood recorded, and in five it is distinctly stated that there was no great hæmorrhage. In two, however, the actual cautery was used to check bleeding, and in one case the galvanic cautery was the instrument with which the operation was performed. I think that from these facts it may be further stated that the measure in question may be accomplished without much risk of dangerous hæmorrhage, the means at our disposal being, as a rule, adequate to prevent great loss of blood. It will be noticed that in two cases Douglas's pouch was opened, but both patients recovered. This immunity, I think, can hardly indicate the rule, though it deserves notice. As to the result of the operation with respect to progress of the disease, we have seen that in only one had the disease returned before delivery. The others all had quick and easy labours. In one case (158), five months afterwards the disease had not returned. In four the disease did return after delivery; in the other cases the further history was not followed up, and unfortunately the termination of the case is not recorded in any of them. (Among the cases which died undelivered will be found another case (134), but as the disease had returned within

a month the removal would seem to have been incomplete). I think we may, therefore, conclude that removal of the diseased part during pregnancy is not much, if at all, more dangerous than in the non-pregnant condition; and that if the disease be thoroughly removed, it may fairly be expected that a sufficient interval will elapse before its return, or before the fresh disease has become extensive, to allow of an easy delivery.

In three cases the diseased part was removed at the time of labour, in one with the galvanic cautery (167), in the other two with scissors. In the two latter cases the operation greatly facilitated labour; in one (168) the os uteri, which before the operation would only admit two fingers, immediately afterwards expanded uniformly; and in the other (169), by the removal of a cauliflower-like growth which filled the vagina, room was gained to rectify a transverse presentation. In neither was there any hæmorrhage. In the case in which the galvanic cautery was used only a part of the growth was removed, and the obstacle to delivery remained nearly as great as before. Incisions were made, and forceps applied. The child was saved, but the mother died from peritonitis.

The lesson of these cases would seem to be that part of the cervix may be safely removed during labour, and that if the disease be tolerably circumscribed, removal of the diseased part will facilitate labour; but that removal of a part of the disease is not of much use.

The practical question which, by collecting and comparing these cases, I have endeavoured to aid in answering, is this; *what is best to be done in cases of pregnancy complicated with malignant disease?* The reply given will, of course, depend partly upon what we regard as the end to be obtained—in other words, upon whether we consider the life of the mother, or that of the child, to be the more valuable. This last question is one not of obstetric science but of ethics, and as this paper is not upon the subject of medical ethics, I shall not enter upon it, but will merely say that I accept and think right that which

has long been the rule of British midwifery, viz. that the life of the mother is always to be preferred to that of the child. The question, then, to which I propose to offer an answer is this: what mode of treatment is best for the mother? Our object is, of course, to save both if we can. The first thing that we should ascertain seems to me to be, *can the diseased part be removed?* I have adduced evidence to show that the risk in removing a diseased cervix is little, if at all, greater than in the unimpregnated state; and it seems to me that the arguments in favour of removing, whenever possible, the local disease, apply with greater force when the patient is pregnant than at any other time, for, as has been shown, if the malady do return within a short time, the interval may yet be enough to allow of a safe delivery; and even if its recurrence should take place before the end of pregnancy, the diseased parts will probably not form an obstruction of the same magnitude and resisting power as would have been the case had it been allowed to grow unchecked; and that, therefore, even if the operation do not ultimately much prolong the mother's life, yet it may save her from much peril and suffering in the process of labour. I think, therefore, that if it be possible to remove the diseased part, it should be done without delay.

But the class of cases in which this is possible, contains the simplest and least formidable ones. We may have cases in which, at an early period of pregnancy, the cancer is so advanced as to render its complete removal impossible. The question then arises, *is it desirable to interrupt the pregnancy?* This is a measure mentioned with approval by Dr. West,[1] who speaks of the practice as sound, and by Scanzoni,[2] and the late Dr. F. W. Mackenzie, in the first paper read before this society, recommended its adoption, and narrated a case in which it was carried out.

I have given reasons for thinking that pregnancy accelerates the growth of the disease, and if so, its pro-

[1] Op. cit., p. 406. [2] Op. cit., s. 371.

gress may be expected to be retarded, and therefore, the patient benefited, by the removal of this stimulus. Again, in Dr. West's words, "the dangers attending miscarriage are not to be put in comparison with those that accompany labour at or near the full period of pregnancy." It needs no showing, that a degree of dilatation insufficient to permit the birth of a viable child, may yet allow the passage of an ovum of 5 months or less. And if, at an early period of pregnancy, the cancer be so advanced that its removal is impossible, it will probably at the end of gestation, if the patient live till then, have reached a sufficient size to make labour very difficult and dangerous. The special danger of abortion in these cases would seem to be from hæmorrhage. This hæmorrhage may either come from the cancer itself, or from vessels laid open by the separation of some part of the chorion or placenta. If from the cancer, the cautery may be used (as in the second of the two cases with which this paper commences) to destroy the new growth which bleeds, and at the same time open up a free cervical canal. If it be from detachment of chorion or placenta, we have in the tent a means of at once effectually arresting hæmorrhage by plugging (at least in cases where the pregnancy is early), and aiding dilatation. I believe therefore, that by the use of the means which we have at our command, excessive hæmorrhage attending abortion may be greatly controlled.

Judging from the analogy of labour, I should doubt if the process of abortion leads to increase of hæmorrhage from the cancer. When the hæmorrhage has been (as in my case) continuous throughout pregnancy, I think it may be inferred that it comes from the new growth. Where this hæmorrhage becomes excessive, and abortion follows, I should think the hæmorrhage more probably a cause than an effect of the abortion.

For the reasons stated, I think that in cases where, at an early period of pregnancy, the cancer is so advanced as to make its removal impossible, the artificial induction of abortion offers the best chance for the mother.

Dr. F. W. Mackenzie, in his paper on the subject, deemed it necessary to defend the morality of his practice. I shall not do that, because that question is one of an entirely different nature to those which I am discussing. If it be intrinsically wrong to induce abortion, no amount of success can justify it; but if it be right to do it when maternal life can be saved or prolonged thereby, then it becomes simply a question of results. I assume, what I believe is now generally admitted in this country, that it is right and proper to cut short pregnancy if by doing so we can save or prolong maternal life; and for the reasons given, I think that in the case under consideration we can prolong life by adopting this measure.

But we may not in all instances be called to a case of the kind until pregnancy has advanced to the sixth or seventh month. If so, *is any benefit to be derived from the induction of premature labour?* I think there is, although not so much as from an earlier termination of the pregnancy. The child will be smaller, hence dilatation of the os need not be so complete, and the bruising and tearing of the parts will be less. The cancer also will be less advanced, and its obstructing power will be probably less than at a later period; and in this step we imitate nature, for we have seen that in a large proportion of cases labour spontaneously comes on prematurely. And we may possibly, by the early induction of labour, deliver alive a child which would otherwise have died in utero, a possibility which we may put against the other possibility resulting from the feeble resisting power to injurious influences possessed by an immature infant.

The next question is, the patient being in labour, *what is the best mode of managing delivery?*

In stating those conclusions as to the management of labour to which the evidence from the cases I have collected seems to me to point, I shall confine myself strictly to the local condition. In actual practice many other factors come into account. We must judge each case by itself, and take all the facts into consideration; but I am

here only dealing with the conditions which are peculiar to labour complicated with cancer.

The obstruction from cancer of the uterus is, of course, in the first stage of labour: the os does not dilate. If dilatation can be accomplished, there is no further hindrance. If the cancer be confined to a small part of the os, the sound part may dilate readily, and no interference be needed; but if the disease affect the whole circumference of the os, dilatation may be slow, and will probably be completed by spontaneous tearing. This tearing but seldom adds to the risk, it is conservative. One of its dangers is that it may extend too far; a single rent may extend to the peritoneum. This is not so likely to happen where the os fissures in several places. But there are also cases in which dilatation will not take place, and, therefore, delivery by the natural passages is impossible; and in which, unless we interfere, ineffectual attempts at the expulsion of the child may continue till the patient dies from exhaustion, undelivered; or rupture of the uterus may take place. These latter cases are characterised either by extreme and unusual hardness of the diseased cervix, or by the cancer taking the form of a voluminous tumour. These, then, are the conditions with which we have to deal. It appears to me that the first question, in labour as in the pregnant condition, should be whether we can remove the disease. If it be so circumscribed that removal of the whole is practicable, the few facts we have show that it may be done with tolerable safety, and there can be little doubt about its advantage when possible. But even if it be impossible to remove the whole disease, it may be that a part of it forms a projecting tumour more or less pedunculated. If so, the removal of such a projecting tumour will facilitate delivery, and will probably diminish the patient's symptoms, and, therefore, it should be done when feasible. There seems to be little risk of hæmorrhage.

But this measure is not always, indeed is seldom, practicable. It is of no use to cut off a little bit, and leave the

greater part behind. What, then, should be done in cases in which it is not possible to remove any considerable part of the disease?

As has been shown, the os may dilate well, and delivery be quickly accomplished; in such cases no interference is needed. But taking the cases in which the dilatation is so slow as to call for some help, they fall into two classes: those in which with assistance delivery of a living child is possible, and those in which it is not, and the problem is to differentiate between them.

If we find that the disease does not form a great tumour, and is not particularly hard, and that as the pains become frequent and strong the os gradually, though slowly, begins to dilate, then, I think, our best plan is to assist Nature by imitating her process, and incise in several places the diseased and rigid os. These incisions do not add to the danger at the time; there is no evidence that they do, as has been stated (erroneously, I believe), lead to increased growth of the disease afterwards; and by facilitating delivery they do save the patient from the danger and suffering consequent upon protracted labour. For reasons already given, I think incisions as a rule preferable in these cases to the pressure of water dilating bags. If, aided by our incisions, the os uteri opens, but yet the force of the uterine contractions appears inadequate to drive the child through, then I think we should seize the head with forceps, and by traction accomplish delivery. I have already given reasons for thinking forceps generally preferable to turning, for the purpose of accelerating the labour. But there yet remain cases in which delivery of a living child cannot take place, and the alternative lies between craniotomy and Cæsarean section, and some, in which there is no alternative, but the Cæsarean operation must be performed.

We may have a case in which the cancer forms a tumour so large that the head cannot pass it, and so hard and fixed, that no yielding whatever can take place; it may even be difficult to find the os. In such a case most will

agree as to the necessity of Cæsarean section. But there are other cases which are not so remarkable for the size of the tumour, but in which the os will not dilate even after incisions have been made, and these are cases either for craniotomy or Cæsarean section. So far as I can see there is nothing except the hardness (a quality which can only be estimated roughly by the finger) in which a difference can be pointed out between these cases and others in which quick dilatation has taken place, and there is no way of being sure that such a cervix will not yield except by making incisions and watching the result. If, after incisions have been made, the pains are strong and frequent, and yet no yielding takes place, then it is evident that we must resort either to craniotomy or to Cæsarean section. I have only been able to find twelve cases of delivery by craniotomy in cases of cancer uteri, but of these the rate of maternal mortality was 75 per cent. The mortality of Cæsarean section in England is 84 per cent. (of the cases which I have collected in which it was performed for cancer, 72·7 per cent.). The data are unfortunately scanty, but they show a very slight difference between the results of the two methods, and when we consider that those who recovered after Cæsarean section did so with far less injury to the diseased parts, and that their local condition was therefore much better than would have been the case after the violence unavoidable with craniotomy under such circumstances; I think that the risks of the two methods are so nearly equally balanced, that we may let the result to the child turn the scale, and look upon Cæsarean section as the operation to be performed when a living child at or near term cannot be born. But a much larger field has been claimed for this operation. It has been said that if any interference at all is needed to accomplish delivery, the Cæsarean section should be the means resorted to. Looking at the high mortality of Cæsarean section, at the abundant evidence there is that patients may recover well and live for months after delivery while suffering from cancer, and

looking at the very slight risk which attends incisions of the cancerous cervix; I think that Cæsarean section ought not to be done until we are sure that delivery of a living child *per vias naturales* is impossible. The argument that Cæsarean section may hereafter become less dangerous, I think does not apply until it has become less dangerous. In advising our patients we have to take into consideration the means which we have now at our disposal, and not those which we may have hereafter.

I will conclude by stating as briefly as possibly the points which demand attention in this communication. Examination of the recorded cases leads to the following conclusions as to their clinical history:

1. That whatever influence cancer of the uterus may have upon conception, is adverse to its occurrence.

2. That cancer of the uterus tends to produce the intra-uterine death, and premature expulsion of the fœtus.

3. That the growth of cancer of the uterus is, as a rule, accelerated during pregnancy.

4. That with cancerous disease affecting the whole circumference of the os uteri, labour may be quick and easy, and the patient may recover well, and live for months afterwards.

5. That when delivery under such conditions is accomplished by natural efforts, expansion of the cervix usually takes place by fissuring.

6. That this fissuring does not usually augment the risk to the mother.

7. That imitation of this natural process, by making incisions, neither increases the danger at the time, nor accelerates the progress of the disease subsequently, and that it often greatly facilitates delivery.

8. That the cases in which the cancer forms a tumour of great size or hardness, are the ones in which delivery by natural efforts will not take place.

9. That where the above characters are absent, no definite criteria can be drawn from the local conditions by

which to foretell the behaviour of the cervix uteri during labour.

10. That where delivery of a living child *per vias naturales* is impossible, such limited experience as we have shows that there is but little difference, as to risk to the mother, between craniotomy and Cæsarean section.

From these data, it appears to me that the following conclusions as to practice follow.

1. That where it is possible to remove the disease, either during pregnancy, or at the time of labour, it ought to be done.

2. That where this cannot be done, the safety of the mother is best consulted by bringing the pregnancy to an end as soon as possible.

3. That when labour has actually come on, expansion of the os uteri should be aided by making numerous small incisions in its circumference.

4. That, dilatation of the os uteri being in progress, if uterine action should be deficient, and it become necessary to accelerate labour, the use of the forceps is, as a rule, better than turning.

5. That when dilatation of the cervix cannot take place, even after incisions have been made, either from rigidity or magnitude of the tumour, Cæsarean section should be performed.

A.—Cases which terminated favourably by the Natural Efforts alone.

No.	Authority.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
1	Boivin and Duges, Traite Pratique des Malad. de l'Uterus, t. ii, p. 52	36 5th pregnancy	More than 13 months	An enormous tumour in the vagina (at first taken for the fœtal head), hollow in the centre so as to admit the first two joints of the forefinger; the surface of the other part of the tumour knotty, hard, and uneven. The os uteri behind and to the left of this tumour, its posterior lip several lines thick, but supple	Natural efforts	After several days' labour the os dilated. The cervical tumour was forced down to the vulva, and as the head emerged was tightly compressed between it and the right ischium	Living	Recovered	Patient left the hospital on the 15th day. The disease progressed during a year subsequent to delivery, though not as rapidly as might have been expected. Further course not ascertained. Madame Boivin remarks on the softening of the tumour during pregnancy.
2	Martel, Archiv de Tocologie, 1877, p. 745	37 6th pregnancy	2 years	Wasting (especially rapidly during pregnancy); hæmorrhages after 3rd month of pregnancy. Upper part of vagina very thickened, forming an irregular, mammillated tumour, with projections of cancerous tissue blocking up the canal. The os uteri degenerated in its whole circumference; the anterior lip downy, ragged, and harder than the posterior	Natural efforts, premature at 7 months	Labour lasted 45½ hours. Pains were strong	Dead	Recovered	Patient left the hospital on the 28th day after delivery. Her general state was slightly improved, the pains better. State of cervix and vagina the same as before delivery. It was evident that the passage of the head had led to deep tearing of the degenerated tissues.

3	Arnott, Medico-Chirurgical Transactions, vol. xxxi, p. 42	41 10th pregnancy	10 months	Offensive discharge, streaked with blood; pain. Vaginal portion enlarged, indurated, gristly; anterior lip of largest size; rugged ulceration of inner surface of both lips. Uterus fixed	Premature, near 6th month, natural efforts	Labour lasted 2½ days. Posterior third of os uteri thin, soft, dilatable; anterior two thirds firm and unyielding. Twins: first child presented transversely; second footling. After expulsion, os was about 3 inches in diameter; no rent could be felt in it	Dead	Some pain and feverishness on 3rd day, but no other grave symptoms	Patient survived six months. Severe and continuous pain in right iliac region. Secondary cancerous tumours in other organs.
4	Hodge, Principles and Practice of Obstetrics, 1864, p. 519	—	—	The whole anterior semi-circumference of the neck thickened and swollen by a cancerous degeneration	Natural efforts	After a few hours the dilatation was so complete that a large infant was spontaneously delivered	Living	Lived for 4 months	Was in comparatively good health for three months, affording sufficient nourishment for her infant. The disease then increased rapidly, and at the end of four months after delivery she died.
5	Madame Lachapelle, Pratique des Accouchements, vol. iii, p. 368	30 Multi-para	—	Frequent hæmorrhages and fœtid discharges during pregnancy	Natural efforts, head presenting at term	Pains accompanied with considerable hæmorrhage. A spongy, irregular swelling of left side of os uteri (at first taken for placenta)	Living	Left hospital in good condition on 9th day	Labour lasted 2 days; cervix did not dilate, and finally gave way by three or four fissures, to left, to right, and behind.
6	Madame Lachapelle, op. cit., p. 369	Primi para	—	Margin of os uteri thickened and of scirrhous hardness	Natural efforts, head presenting at term	Termination of case not recorded	Suspended animation, but easily restored	Remained in hospital 6 days, during which no ill result appeared	Termination of case not recorded.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
7	Madame Lachapelle, op. cit., p. 370	42 12th pregnancy	4 months	Pregnancy preceded by hæmorrhage for four months. Bearing down and lancinating pains towards the end of gestation. Posterior lip of os scirrhous, divided into two lobes, continuous with one another, the larger as big as a walnut	Spontaneous: breech presentation	Labour lasted 4 days. Cervix did not dilate until 2 hours before delivery. An examination 15 days afterwards discovered a deep fissure directed backwards on each side of the tumour	Living	Free from pain after delivery, scirrhous tumour the same, os contracted 15 days afterwards	Termination not recorded.
8	Simpson, op. cit., p. 501	—	—	The whole circle of the cervix uteri seemed affected with the cancerous disease	Natural efforts, prematurely	Labour premature between 7th and 8th months. The os at last dilated and fissured sufficiently to allow a living child to pass	Living	Recovered	The disease proved fatal to the mother a few months subsequently.
9	Ramsbotham, loc. cit.	3rd pregnancy	Nearly 2 years before delivery	A previous abortion during progress of the disease. From the whole disc of the os a fungous tumour sprang, which filled a large portion of the vagina; cervix exceedingly indurated all round	Natural efforts	Labour lasted 48 hours. Os uteri dilated slowly, although pains were very strong. The head passed suddenly through os uteri, its passage being accompanied with a shriek from the mother and a rending sensation; no laceration was detected, but a minute exploration was not made	Living	At the end of a month was able to leave her room	Died 14 months after delivery.
10	Fankhauser, Schmidt's Jahrbücher, vol. clxii,	49 6th pregnancy	—	Hard nodules in anterior vaginal wall, and in vaginal portion of cervix. The whole vaginal por-	Natural efforts, head presenting	Dilatation of os slow; pains beginning to fail an enema of opium given, after which pains	Living	Left hospital on 7th day	Carcinoma was thought to have advanced when patient was discharged. Patient died 88 days

	p. 149 (Schweiz. Corr. Bl., iv, 1, 1874)			tion hard and its surface nodular		returned and delivery followed. Not much hæmorrhage			after delivery.
11	Pedelaborde, Chantreuil, op. cit., p. 28	32 6th pregnancy	More than 6 months	Leucorrhœa and hæmorrhages. Os uteri covered with cancerous nodules separated by deep fissures. Os admitted finger with ease at 7 months' pregnancy. Pregnancy not suspected	Natural efforts at 8 months	Labour lasted about 24 hours after rupture of membranes. The discharged liq. amnii was taken for urine, and pregnancy never suspected till the child was seen	Living	Recovered	Termination not recorded.
12	Benicke, op. cit., p. 347	—	—	Advanced carcinomatous degeneration of the whole lower part of the uterus and the vaginal wall, the solid infiltration being felt extending to the pelvic walls. Cæsarean section thought to be unconditionally indicated	Natural efforts, premature at about 8 months	Hardly any pains; a dead child found between her thighs	Dead	Favourable	When examined some days afterwards, a crater-shaped opening in the hard infiltration found in situation of internal os. Cancerous disease reached to meatus urinarius. Further course not stated.
13	Elias von Siebold., Jour. für Geburt, Bd. iii, p. 57, 1819	—	—	Scirrhus with pregnancy	Natural efforts, full term	Birth quite natural	Living	Recovered	The cancerous disease advanced, but she soon became pregnant again.
14	Arneth, Geburtshilfliche Praxis, 1851, p. 65	2nd pregnancy	—	On the right side of the posterior part of os uteri a cartilaginous ridge, in the neighbourhood of which were several indentations surrounded by hard tissue. The os uteri in several places was studded with granulations	Natural efforts	Labour lasted about 15 hours	Living	After a perfectly normal lying-in, patient was discharged on 8th day	Examination before patient's discharge showed that the indentations had increased in size, and the whole os uteri, with the exception of a small part to the left, studded with granulations.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
15	Cormack, London Journal of Medicine, 1851, p. 212	30 4th pregnancy	Probably some months before pregnancy	Pregnancy; some months before great menorrhagia. During pregnancy watery discharge, with slight hæmorrhage, about once a month. General health during pregnancy thought to be good. An irregular, tolerably firm, somewhat elastic mass, growing from anterior part of os uteri, obstructing upper part of vagina	Natural efforts, aided by ergot	Much hæmorrhage in early part of labour. Labour lasted 28 hours. Os uteri rigid; membranes ruptured, and ergot given	Living	Everything went well till 14th day, then alarming hæmorrhages and much local pain	70 days after labour the diseased part of uterus was excised. Much improvement followed; but in 2 months the disease returned, and 8 months after delivery the patient died from exhaustion.
16	D. D. Davis, Obstetric Medicine, p. 737 (quoted from Clark)	26	Not longer than 9 months	Profuse discharge, from the effect of which she seemed to be sinking fast; the whole pelvis filled with a cauliflower excrescence, so large as to impede the passage of fæces and urine	Natural efforts, head presenting	The tumour was expelled before os uteri could be dilated for passage of head, and before head could pass through pelvis. It receded into the vagina as soon as the child was born	Not stated	No unusual discharge followed parturition	Patient died in a state of great emaciation 6 weeks after delivery.
17	Hachmann, Siebold's Journal für Geb., &c., vol. xv, p. 626	32 multipara	Symp. began during latter half of preg.	Severe pain; no hæmorrhage; wasting and hectic. Os uteri thickened, deeply fissured, very hard, and sensitive. It admitted two fingers	Natural efforts at term	Labour lasted about 16 hours. The pains were severe, and the os dilated slowly. Not more hæmorrhage than usual followed	Living	Recovered	No bad symptons occurred during the lying-in period. She died 4 months afterwards. Autopsy forbidden.
18	Dubois, from Cohnstein (Case 13)	—	—	—	Natural efforts	—	Living	Recovered	—

19	Dr. Matthews Duncan	31 5th pregnancy	—	Cervix during pregnancy hard and projecting. No marked symptoms	Natural efforts	The os dilated slowly to the size of half a crown, and then the child was born. Whether any tearing took place was not noted	Living	Good recovery	No marked symptoms after delivery. Suckled 5 months.
20	Merriman, quoted in Lee's Clinical Midwifery, 2nd edition, p. 92	—	—	—	Natural efforts	Labour pains excruciating, and continued for a long time without producing any effect upon the os uteri; but at last it gave way suddenly, and the head passed through it	Living	Recovery	Died 6 weeks after delivery.
21	Merriman, op. cit., p. 92	—	2 years or more	Extreme pain in the back, emaciation, and extremely offensive discharges. The whole os uteri and a large part of the cervix was eaten away by ulceration	Premature at about 6 months	The fœtus and placenta passed into the world almost without pain	Living	Recovery	Was not at all benefited by delivery, but continued to live in a state of great suffering till death, 6 months afterwards.
22	Robert Lee, op. cit., p. 91	—	—	Malignant fungoid disease of the os uteri	Spontaneous at 7 months	Induction of premature labour was recommended, but refused	Dead	Recovery	Pain, discharges, and other symptoms almost entirely disappeared for several months after confinement, but they returned, and she died 8 months after delivery.
23	Lever, Organic Diseases of the Uterus, p. 219	39 10th pregnancy	—	Lancinating pains; wasting. Posterior lumbus of os uteri and cervix of scirrhous hardness	At term, a small fœtus, natural efforts	Labour lasted 60 hours. Anterior segment of os uteri dilated sufficiently to allow the passage of a small fœtus	Not stated	After delivery great pain and a sensation of burning in region of tumour	Five weeks after her confinement suffered from all her previous symptoms, but in an aggravated degree. A great increase in the local disease. Termination of case not recorded.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
24	Lever, op. cit., p. 221	3rd pregnancy	—	Pains in loins; irritability of bladder	Natural efforts	Labour of 6 hours' duration. On anterior part of os uteri were 4 or 5 small bodies the size of peas	Living	Convalescence rapid	Dr. Lever again attended in next confinement 2 years afterwards.
25	Lever, op. cit., p. 221	4th pregnancy	—	During last 3 months hardly ever free from pain	Natural efforts	The bodies detected in previous confinement were still present, the two largest the size of horse-beans, the others as large as peas; the surrounding tissues thickened and hard. Os uteri dilated with great difficulty. Labour lasted more than 24 hours	Dead	Nothing occurred to prevent convalescence, except pain and heat in the region of the tumours	Dr. Lever again attended 11 months afterwards.
26	Lever, op. cit., p. 221	5th pregnancy	—	—	Natural efforts at 7½ months	Labour lasted 7½ hours	Living	Recovered	Six months after labour the disease was progressing. Patient subsequently ascertained to be "in the last stage of malignant disease of uterus."
27	Lever, op. cit., p. 218	40 12th pregnancy	—	"Anterior lip of os uteri occupied by a firm, scirrhous, tubercular deposit; posterior soft and dilatable"	Natural efforts, child under the standard size	"After some hours of great suffering the posterior lip dilated sufficiently to allow the head to pass"	Not stated	Recovery most favorable	"The pressure to which the anterior lip of the os uteri was subjected caused the disease to progress rapidly to ulceration."
28	Oldham, Lond. Journ. of Med., 1851, p. 206. Seen by	42 13th pregnancy	From first month of	Watery discharges and bleeding, with severe pain. Pregnancy not suspected. During preg-	Natural efforts	Suddenly seized with labour pains, and easily delivered	Decomposing	Symptoms of cancer got worse after	Six weeks after delivery the cervix and posterior wall of vagina were found extensively de-

	6 wks. after delivery			she had cancer					rectum. Further course not recorded.
29	Mauriceau, Observations sur la Grossesse, Obs. 265	Multipara	Last child a year before; whites for 4 years	An "indurated ulcer" on os uteri. Patient confined to bed 4 months before delivery with pain and hæmorrhages	At 8 months	Liq. amnii discharged 5 days before delivery, without any dilatation of os uteri	Decomposing	Recovered	Lived 3 months afterwards.
30	Boivin et Duges, Traité Pratique des Maladies de l'Uterus, vol. ii, p. 56, 1833	4th pregnancy	—	At the time of labour the cervix formed a large tumour, which the midwife took for the child's head	Natural efforts at term	After 8 days of pains, with much loss of blood, the "fleshy bag" opened and allowed the head to pass	Dead, decomposing	Recovered	6 months afterwards the "neck of the uterus was entirely eaten away by cancerous ulceration, with hard, jagged borders." Died some months later.
31	Bagli et Cazal, Dict. des Science Medicale, t. iii, p. 592 from Chantreuil, p. 6)	37	About 9 months before delivery	Hæmorrhages 9 months; very copious fetid discharge in intervals; no pain; progressive loss of strength. Cervix uteri entirely destroyed; it was replaced by a very large irregular ulcer	Natural efforts at term	After about 7 hours' labour a dead child was expelled, to the great surprise of her medical attendants. It was fully developed	Dead	Recovered	After delivery she regarded herself as cured, though the ichorous discharged continued. She died 5 months after delivery. Autopsy showed that ulceration had destroyed the cervix uteri and the upper part of vagina, and had opened into the bladder.
32	Meissner, from Hachmann & Cohnstein	—	—	Cancer of the uterus	Premature at 6 months	Very painful, but terminated without aid	Not stated	Recovered	The life of the mother was prolonged.
33	Boers, quoted by Hachmann & Cohnstein	—	—	Cancer of neck of womb. The disease remained stationary during pregnancy	—	Easy labour, without any unusual conditions	Living	Recovered	Left the hospital after a short time. Died after some months from cancer of the womb.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
34	Boers, op. cit.	—	—	As in the above case	—	As in the above case	Living	Recovered	Left the hospital after a short time. Further course not stated.
35	Delbech, from D'Outrepont, op. cit.	37	9 months	Hæmorrhage, especially after coitus; wasting; no pain; fœtid discharge in intervals of hæmorrhage. Cervix uteri entirely destroyed; in place of it was a broad ulcer, with uneven and fissured edges, in which the os uteri could not be distinguished	At term, natural efforts	After 7 hours' labour a fully developed child was born, to the surprise of the medical men in attendance, who had not suspected pregnancy	Dead	Recovered	Died 5 months afterwards. Autopsy showed cancerous destruction of cervix uteri and base of bladder. Body of uterus healthy.
	B.—Cases in which Delivery was accelerated by Forceps, with favourable Results.								
36	Schmidt's Jahrbücher, vol. cxxii, p. 300, 1864, Fischl. (Allg. Med. Ztg., ix, 8, 1864)	32 multipara	2 weeks	Hæmorrhage 2 weeks prior to delivery. Anterior lip of os thick, uneven, hard; posterior soft, smooth, extensible. Os dilated to size of thaler	Forceps, applied as soon as the os was big enough to allow of it	Partial placenta prævia. Edge of placenta felt to left. Pains feeble; dilatation of os slow; much hæmorrhage for 2 days before delivery. Tampons and enemata of secale cornutum resorted to to procure dilatation. Frequent rigors and vomiting	Decomposing	Much hæmorrhage following separation of placenta	No hæmorrhage for 3 months after delivery; then frequently recurring hæmorrhages began to take place, with fœtid discharges in intervals. Examination then showed deep excavated ulceration in anterior vaginal cul de sac and on vaginal portion of cervix. Patient then quickly came to

37	Madame Lachapelle, op. cit., p. 375	6th pregnancy	2½ months	Lancinating pains and white discharge for 2½ months before delivery. Cervix uteri hard, thick, uneven, scirrhous, forming a ring swollen at intervals	Forceps at 7½ months	Labour lasted 4 days, pains ceasing when os was 2½ inches in diameter (numerous fissures having formed in the scirrhous ring) forceps were applied. Delivery caused great pain	Living	A little hæmorrhage followed. Health was quickly re-established	Some months afterwards she still complained of pains in pelvic region. Termination not recorded.
38	Löwenhardt, Chantreuil, op. cit., p. 26	29	More than 3 months	Much hæmorrhage before and during labour. Around os uteri were felt many excrescences, shrivelled, but bleeding when touched, seated on a large smooth insensitive surface	Forceps	After about 24 hours' labour os uteri was firm, and only slightly dilated. Ergot was then given. After about 12 hours the os was completely dilated, and rupture of membranes took place; delivery then completed by forceps	Living	Recovered	Patient was very weak after confinement, but recovered enough to suckle the child for 5 months; then hæmorrhages returned, and she had to wean. Later the tumours were removed, and the patient was for a time better. Termination not recorded.
39	Lever, op. cit., p. 223	—	—	A hardness amounting almost, if not quite, to scirrhous, occupying at least two thirds of the os uteri	Forceps	After labour had lasted 3 days the mouth of the womb was dilated but to a small extent, "but it was forced by the violence of the pains down almost to the os externum;" the woman bled; forceps then applied	Living	Recovered	Immediately after delivery the scirrhosity appeared of the size of a goose's egg. The patient lived rather more than 3 years after her confinement, and died with all the symptoms of carcinoma uteri.
40	M. Butler, from Cohnstein, Case 60	—	—	Cancer of anterior border	Forceps	Labour lasted 84 hours	Living	Recovered	—

C.—Cases in which Delivery was accelerated by Turning, with favourable Result to Mother.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
41	Simpson's Works, vol. i, p. 500 (Watt Black's edition)	Multipara	—	Carcinomatous induration of posterior lip of uterus	Turning	Symptoms demanding artificial delivery supervened by the time that os uteri was nearly fully dilated. Cervix tore slightly as head passed ("perhaps a previous incision would have been better")	Living	Recovered	The cancerous disease proceeded slowly onwards, and she died in about a year
42	Marchand, Chantreuil, op. cit., p. 91	30 4th pregnancy	—	Circumference of os studded with three projecting and very hard tumours separated by narrow furrows	Transverse presentation, turning	The os slowly dilated, and after 2 days' labour the hand could be introduced and the position, which was transverse, rectified. Feet were brought down and child delivered	Living	Recovered	Left the hospital in about 8 days.
43	Hodge, op. cit., p. 287	—	—	The whole neck of the uterus scirrhous, apparently undilatable to any extent. The finger could be merely introduced within the orifice to a long, contracted canal in the cervix	Breech presentation: feet brought down: traction with hook	After 8 days' labour os uteri dilated about 1½ inch; neck shortened; a breech presentation recognised. Next day there was fœtid discharge from vagina; os 2 to 2½ inches in diameter. By fingers and hook a foot was brought down, and then by traction, aided by hook, delivery finished	Dead	No great degree of hæmorrhage; patient did well	—

44	Jacobi, American Journal of Obstetrics, vol. i, p. 83	1st pregnancy	—	Cervix short, broad, and soft; os patulous. It presented a papillary growth of the kind known as cauliflower excrescence	Premature labour induced at 8 months, turning	—	Not stated	Recovered	Ten days after delivery the growth was removed, portions of it being surrounded with galvano-caustic wire, and the rest destroyed with the cautery point. Patient recovered well. 4 months afterwards uterus was $1\frac{5}{8}$ inch long, and cicatrix smooth and firm.
45	J. C. G. Jörg, Schriften zur Beförderung der Kenntniss des Menschlichen Weibes, 1812, p. 250	33 4th pregnancy	From beginning of pregnancy	Continuous hæmorrhage and lancinating pain. A cauliflower-like mass springing from the left side of the cervix uteri; the whole lower part of the uterus very hard; the vagina and labia pudendi for the most part indurated and studded with larger or smaller cauliflower-like excrescences	Bipolar version (premature at about 5th month or longer, not precisely stated)	After 19 hours' labour pains the os would only admit two fingers. The elbow presented. Child turned by the bipolar method, and a foot brought down; the buttocks were left to dilate the os without further traction. The head remained about an hour in the os. No trouble with the afterbirth	Not stated	Died 9 weeks afterwards	Condition was much improved till about the 14th or 16th day, when the old symptoms began to return. She died 9 weeks after delivery. Autopsy showed dilatation of ureters, cauliflower-like growths and ulceration of vagina and uterus.
46	Potter, Meeting of Obst. Soc. London, May 1st, 1878	29	About 7 mos.: from beginning of pregnancy	A hard lobulated mass found occupying upper and posterior part of vaginal canal, extending to within 2 inches of vulva. Per rectum a large fungating tumour felt, evidently identical with that occupying vagina. Cervix and os uteri not implicated. Rectum almost occluded	Premature labour induced at $7\frac{1}{2}$ months	Labour induced by leaving a gum elastic catheter in utero. Delivery effected by pulling down feet and bringing head through with forceps	Living	Recovered	Colotomy performed in 3rd week after delivery; a week after this patient died. No marked alteration in symptoms after delivery.

D.—Cases in which Incisions were made into the Cancerous Cervix, and which terminated favourably.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
47	Guéniot, Chantreuil. op. cit., p. 12	27 5th pregnancy	—	A cancerous tumour, as big as the fist, growing from anterior lip of os; the rest of the cervix hard, resistant, easily broken down; the vagina also invaded. Repeated hæmorrhages during pregnancy	Premature at 6½ months. Turning, incision	After 3 days ineffectual labour the os was as big as a five-franc piece, its margin hard, firm, inextensible. Head and foot presented; under chloroform a foot was brought down. To extricate the head the os had to be incised behind and to left. The operation occupied about 20 minutes. No great hæmorrhage followed	Dead, not decomposed	Recovered	Patient recovered well, and left her house in 12 or 15 days. No record of further progress.
48	Madame Lachapelle, op. cit., p. 376	—	—	Scirrhus of neck of uterus	Incisions into cervix, and forceps. At term	For 42 hours no dilatation of os took place; no hope of its occurrence being entertained numerous radiating incisions were made into the parts where the scirrhus was of least thickness. Forceps then applied	Living, weighed 7lbs.	Recovered	"The progress afterwards presented nothing remarkable."
49	Simpson, op. cit., p. 500	—	—	Extensive cancerous disease of cervix uteri	Incisions into cervix, and forceps. Prema-	After parturient efforts had lasted a considerable time, without any prospect of successful dilatation, the os uteri	Living	No aggravation of symptoms in	The cancerous disease proved fatal a few months subsequently.

					ture at 8th month	was enlarged by lateral incisions, and infant extracted by long forceps		consequence of delivery	
50	Spiegelberg, Chantreuil, op. cit., p. 78	44 10th pregnancy	A month or more	Repeated hæmorrhages in the last month of gestation. Vaginal portion long and hard; anterior lip large, of cartilaginous hardness, with nodosities; posterior lip softer, as if suppurating and in process of destruction	At term. Incisions, forceps	After 3 days' labour the pains became so violent and the os dilated so little that rupture of uterus was feared; three incisions therefore made, two lateral, one anterior. Only slight hæmorrhage. Forceps then applied. Placenta expelled spontaneously. No hæmorrhage	Living	Recovered well	Died 10½ months after delivery.
51	Guéniot, Chantreuil, op. cit., p. 80	34 6th pregnancy	5 or 6 months	Cervix uteri in its left third presented a hard, uneven tumour, extending the whole length of the cervix, projecting into and in a measure obliterating its canal, below forming a projecting tongue. The remaining two thirds showed induration and irregularity, but without a distinct tumour. Os uteri semilunar in shape owing to projection of tumour. Posterior vaginal wall near cervix also altered. Leucorrhœa, not fœtid, 5 or 6 months or more. General health apparently good. Pain in later period of pregnancy	At term. Incisions, forceps	After 2 days' labour no dilatation had taken place. Five or six incisions were then made, by means of which two fingers could be introduced into cervical canal. Very little hæmorrhage but much pain with incisions. Forceps then applied, and without much traction the head was delivered, the incisions being enlarged by tearing in the process. The whole operation lasted 1 hour and 25 minutes	Living	Death on 40th day	Death from the cancerous cachexia and *erysipelas ambulans* starting from the genital organs. On autopsy, about one third of the periphery of the cervix was found still spared by the cancer; the uterine body not invaded; perforation of vesico-vaginal wall; psoas abscess

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
52	Lowenhardt, Chantreuil, op. cit., p. 86	38 8th pregnancy	—	Often ill since last confinement, 4 years previously; pain, sanious and fœtid discharge. Os uteri swollen in all its circumference, indurated, and tender; the finger could be inserted	Ergot, incisions, forceps	No dilatation taking place, even after ergot had been given, incisions were made; no pain or hæmorrhage followed. Pains being then feeble, forceps were applied. Hæmorrhage in third stage, requiring artificial removal of placenta	Living	Normal recovery	Died "in the following year" from the progress of the cancerous cachexia (confined Oct. 17).
53	Natale. Chantreuil, op. cit., p. 87	14th pregnancy, 9th labour	—	Cervix uteri converted into a hard, bossy, bleeding tender mass, invading posterior wall of vagina	At term. Incisions, dilatation with sponge, forceps	After 2 days' labour incisions made into the cervix; the prepared sponge introduced, and removed after 4 hours, when there was still little dilatation. Then forceps were applied	Living	Normal recovery	Died 6 months afterwards.
54	Simpson, Obstetric Works, Watt Black's edition, p. 500	—	—	Septum between rectum and vagina perforated by carcinomatous ulceration. The disease did not extend to uterus	Forceps, incisions	First stage of labour natural; child then extracted with forceps. It was necessary first to freely incise the carcinomatous mass. In bringing down the head the perineum, which was quite indurated and tuberculated, tore in its whole extent	Living	Rapid convalescence	The patient lived for more than 2 years afterwards, the carcinomatous ulceration gradually excavating and destroying the whole contents of the pelvis.
55	Stein, from Cohnstein	35 5th preg-	—	Cancer of the lower segment of uterus and the whole fundus vaginæ	Incisions, forceps	Lingering labour. Premature rupture of membranes. Venæsection; di-	Dead	Recovered	"It is remarkable that the mother survived, in spite of a utero-vesical

	(Case 91)	nancy				finger, incisions, forceps			uterus."
56	Hedrich, Cohnstein (Case 102)	40, 8th pregnancy	—	Cancer of os uteri	Incisions, forceps	—	Living	Recovered	Died 3 months after.
57	Wallstein, Cohnstein (Case 92)	40 6th pregnancy	—	Cauliflower-like tumour, of the size of a citron, springing from anterior lip of os and descending into vagina	At 6th month	Incisions, forceps, on account of feeble pains and faintness. Retained placenta	Living	Recovered	No symptoms during pregnancy. 2 months after delivery hæmorrhage and increase of tumour. Death 4 months after.

E.—Cases terminating by Natural Efforts alone, unfavourably to Mother.

58	Sir C. M. Clarke, Diseases of Women attended with Discharges, 3rd edit., 1831, p. 217	40	—	Cervix uteri greatly thickened in every part, and felt like cartilage; it was tender on pressure. Profuse leucorrhœa and attacks of pain during latter part of pregnancy	Natural efforts	Two days elapsed before the os uteri was completely dilated, and the dilatation was performed with greater suffering than usual. The head at length passed through it	Not stated	Died in a few days	After the labour the pain and discharge were greatly increased. On autopsy the cervix was found very much thickened, and ulceration had commenced.
59	Ramsbotham, Medicine and Surgery, 5th edit., p. 244	—	—	The whole disc of the os uteri destroyed by malignant ulceration, the vagina being extensively affected also	Natural efforts (premature)	Child born before the midwife could arrive	Not stated	Died in the second week after delivery	
60	Merriman, quoted in Lee's Clinical Midwifery, 2nd ed., p. 92	—	—	On returning home from a case of labour Dr. Merriman was informed by Dr. S. Merriman that the patient had a scirrhus of the os uteri. She, however, conceived again	Natural efforts	With this labour no operation was performed	Living	Died soon after delivery	

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
61	Laubreis, Siebold's Journal fur Geb., vol. vii, p. 400, 1827	30 4th pregnancy	12 months before delivery	Emaciation and hectic. Metrorrhagia; bearing down; lancinating pain; urinary and rectal tenesmus and pain; fœtid discharge; rapidly advancing cachexia. Portio vaginalis uteri swollen, filling upper part of vagina, hard, fissured, tender, bleeding readily when touched. Lower third of cervix and anterior and posterior vaginal walls equally hard and uneven	Natural efforts; head presenting	Os uteri more than an inch wide before labour had begun. Labour set in with hæmorrhages and faintings; pains frequent and severe; os uteri descended without opening. After about twelve hours labour the cancerous cervix tore in two places, where there was thinning between the lobes, and where Dr. L. had intended to incise it; considerable hæmorrhage accompanied the tear	Still-born, small, and emaciated	Severe pain, hæmorrhage, rigors, followed labour. Death by collapse in 2½ hours	Autopsy showed peritonitis over uterus. Gangrene* (?) of upper part of uterus. Lower part of uterus black ulcerated, cancerous. A fistulous opening between bladder and vagina. *(P.M. 2 days after death.)
62	Churchill, Diseases of Women, 5th edit., p. 366	40 8th pregnancy	At least 5 mos. before delivery	Cervix nearly destroyed by irregular ulceration, which had extended more deeply into the substance of the uterus posteriorly. Little, if any, thickening of the parts. Discharge profuse and fetid	Natural efforts; fissuring of os	After more than 39 hours strong labour the pains seemed to have no effect in dilating the os. While a consultation was being held as to further treatment a few strong pains drove the child into the world	Decomposing	Died from peritonitis on 5th day	Autopsy showed peritonitis. Some blood in cavity of pelvis, under broad ligament. A transverse rent posteriorly at junction of body and cervix, corresponding to the most deeply ulcerated part.
63	D. D. Davis, op. cit., p. 741 (quoted from Clark)	32 9th pregnancy	9 months	Constant vaginal discharge, generally watery, sometimes bloody, by which she was extremely debilitated	Natural efforts	Labour lasted 2 days; constant vomiting	Decomposing	Died 4 days after deli-	Vomiting soon ceased; aphthæ appeared; she became gradually weaker.
64	Michel,	40	15	Irregular hæmorrhages;	Natural	Much hæmorrhage for	Not	Death in	When examined after

	Schmidt's Jahrbücher, vol. xlviii, p. 187, 1845 (Wurtemburg Correspond., Blatt, No. 21, 1845)	8th pregnancy	months	fœtid white discharge; lancinating pains; cachexia	efforts	2 days before delivery, and continuous hæmorrhage, with much pain, after termination of labour. Pains very severe	stated	3rd week after delivery	delivery uterus swollen and tender; lochia of cancerous odour; cervix extensively destroyed; — pieces of it could be broken away with finger, and showed partly fibrous, partly "fungous" structure; hard nodules extending from breasts to axilla; breasts flabby.
65	Levret, Chantreuil, op. cit., p. 25	35 multipara	—	A cancerous ulcer of the neck of the womb	At 8th month natural efforts	She was six days in labour, there being no dilatation of the os uteri, which was very hard. On the 7th day delivered of a dead child	Dead	Did not survive long.	
66	Levret, Essai sur l'Abus des Régles Gen., Art. XIII	—	Many years	The mouth of the womb was as large us the fist, and filled all the vagina	"Traction du cordon"	Labour lasted 72 hours	Atrophic, but living	Died from subsequent hæmorrhages in 6 days.	
67	Putegnat, op. cit., p. 36.	34	—	Cancer of neck of uterus; operated on with écraseur and actual cautery; became pregnant immediately on leaving hospital	Natural efforts	"very quick; horribly painful"	Not stated	Death immediately after delivery.	
68	Brudenell Exton, System of Midwifery, Case 19	—	—	Much emaciated, as in the last stage of a consumption; violent pain; there came from her a very fetid discharge; uterus quite scirrhous; to the feel was like the head of a child; a great hardness all round the os uteri, which would barely admit one finger	Premature at 7 months	Delivered by a midwife of an abortive infant, of about seven months; the midwife believed that there was a "false conception" behind. This body was the placenta shut up in the womb. With great difficulty two fingers were introduced and placenta removed	Dead	Survived 5 or 6 days	Contrary to the expectation of the author.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
69	Hugensberger, from Cohnstein (Case 103)	27 4th pregnancy	—	Medullary carcinoma of posterior lips; 9 cent. in breadth	Natural efforts	After expulsion of the child uncontrollable hæmorrhage	Living	Died	Child weighed 11 lb. Laceration of uterus.
70	Hedrich, from Cohnstein (Case 103)	—	—	Cancer of os uteri	3 weeks premature natural efforts	—	Dead	Died in 3 weeks.	
71	Kilian, from Cohnstein (Case 91)	—	—	Cancer of vaginal portion and lower segment of uterus	Natural efforts	Easy labour	Living	Died on 14th day.	
72	Desormeaux, from Cohnstein, (Case 43)	—	—	Cancer of anterior lip	Natural efforts	Labour lingering and painful. Dilatation of os uteri took place entirely at the expense of the posterior lip	Not stated	Died soon after labour.	
73	John J. Sharpless, quoted by Hachmann and Cohnstein	—	—	Carcinomatous disease of uterus, during which she conceived. Hæmorrhage, pain, and fever after the 5th month of pregnancy	Premature at 7 months	Very severe labour	Not stated	Died 3 days after	Autopsy.—The whole neck of uterus enlarged; knotty tumours 2 inches thick by 1 inch filled the vagina; an ulcerated opening through which the thumb could be passed into bladder.

F.—Cases in which Delivery was accelerated with Forceps, but Result was unfavourable.

74	Madame Lachapelle. op. cit., p. 371	34 6th pregnancy	11 months	Hæmorrhage from 2 months before, to 6th month of gestation; pains and watery discharge during last 3 weeks of gestation. Os uteri very irregular, surrounded by 4 or 5 hard, smooth, irregular disposed tumours, the largest behind	Forceps at term	Labour lasted 3 days. Os uteri dilated slowly; pains severe; feverishness; and great prostration. Pains becoming feeble, forceps applied, and child extracted with ease	Dead Epidermis peeling off	Moderate hæmorrhage followed delivery; uterus contracted well. Patient died 24 hrs. after delivery, apparently in collapse	Autopsy showed peritonitis, which had evidently existed before delivery. A laceration of os uteri, not involving the peritoneum.
75	J. W. Kay, Lancet, vol. ii, 1870, p. 876	33 10th pregnancy	—	Os extensively thickened and indurated with cancer	Forceps. At term	After 2 days' strong labour the os was not in the least dilated. While preparations were being made to incise it, a laceration about 3inches long took place in posterior lip. Delivery completed with forceps	Not stated	Died in 14 days	Death from exhaustion.
76	Edis, Obst. Trans. vol. xvii, p. 344	33 3rd pregnancy	About 9 months	Advanced epitheliomatous degeneration of cervix, affecting vaginal wall behind and to left; bleeding readily when touched. Repeated floodings and vaginal discharge during pregnancy	Barnes's water dilating bags, and forceps. At term	The disease affected about three-fourth of circumference of os. Os dilated with bags; then forceps applied; vaginal outlet incised with scissors, but nevertheless perineum ruptured. Labour lasted 33 hours	Living	Hæmorrhage afterwards only slight	Death from pyæmia on 13th day. Sloughing of epitheliomatous growth and part of vaginal wall. Abscess by the side of vagina.
77	Johnston, Report of Rotunda Hospital, 1871	29 5th pregnancy	—	Os uteri the size of a two-shilling piece; hard, cartilaginous and jagged; examination painful; hæmorrhage and fœtid discharge	Forceps	First stage lasted 12 hours. The head remaining in cavity for 1 hour, without any advance, notwithstanding strong pains, chloroform was administered, and forceps applied	Dead and decomposing	Died 29 hours after delivery in collapse	No autopsy.

G.—Cases delivered by Turning, with unfavourable Result.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
78	Elias von Siebold, Journal für Geburtshülfe, &c., vol. vii, p. 578, 1827	36 14th pregnancy	17 months before delivery	Hæmorrhage, pain, tenesmus. Hæmorrhage during pregnancy very copious. much exhausting her. A scirrhus of extraordinary size and hardness, growing from right side of posterior lip of uterus, divided into lobes, and filling almost the whole vagina. The anterior lip unaffected	Turning	Labour lasted 2 days. Os dilated slowly; sponges soaked in sedative and emollient applications were inserted to dilate it, with effect. The head not descending, the child was delivered by turning. Placenta had to be manually removed	Suspended animation at birth. Lived 24 hours	Copious hæmorrhage followed delivery, reducing patient to syncope. Next day hæmorrhage recurred, and was fatal.	—
79	Chiari, Braun and Spaeth, Klinik der Geb. und Gyn., 1855, p. 187	33 6th pregnancy	2 years	Pain 3 years. Fœtid discharge a year. Hæmorrhage 2 months. The whole os uteri knotty, forming a firm hard ring	Turning	Shoulder presentation. After 8 days labour, the waters having broken, and 2 attempts made to turn, lacerations took place in cervix and posterior vaginal cul-de-sac, through which loops of intestine came down. The child was then turned and delivered	Not stated	Died on the 18th day	Autopsy. Medullary carcinoma of neck and lower part of body of uterus.
80	Elias von Siebold, Journal für Geb, Bd. iii, p. 56,	—	—	Cancerous disease of the womb	Turning Full term	Ruptura uteri was feared: the still healthy part at on side of the cervix dilated; delivery was accelerated by turning	Not stated	Died soon afterwards	Autopsy showed such destruction of uterus, vagina, and bladder, that one would hardly have thought pregnancy

81	Savory, cas. cit. (163)	10th pregnancy	—	2½ years after last pregnancy, patient was found to be again 7 months pregnant	Premature labour came on at 7 mos. dilatation & turning	Os uteri dilated slowly. Therefore it was dilated with Barnes's dilating bags, and then delivery effected by turning. No undue hæmorrhage occurred	Dead, but not decomposing	Death from exhaustion on 13th day.	—
82	Elias von Siebold, Journal für Geb., &c. Bd. 7. p. 536	46 9th pregnancy	Since the last pregnancy	Abdominal pain; fœtid discharge. Os uteri thick, uneven, and nodular	Turning	The left arm of the child felt lying in the vagina. Cuticle already peeled off. It was not possible to introduce the hand and turn by the feet without tearing the uterus; but after some hours the os became wider and more pliable, and then the feet were brought down: Placenta followed without much hæmorrhage	Decomposing	Died on 4th day from acute puerperal fever.	—
83	C.E.Stricker Puchelt de tumoribus in pelvipartum impedimentibus. Case 24	40 5th pregnancy	From 5th month of pregnancy	Hæmorrhage, white discharge, and debility. A hard, painful, tubercular substance, springing from the left side of the cervix, and projecting into the os. Carcinomatous degeneration	Turning	The child was turned by the feet, although the carcinomatous degeneration rendered the operation difficult, and extracted	Dead	Died after 3 days.	—
84	M.J. Brown, quoted by Cohnstein. (Case 59)	—	—	Ulcerated cancer of os and cervix	Premature at 7 months. Turning	Labour lasted 44 hours	Dead	Died after delivery.	—
85	Lowenhardt quoted by Cohnstein. (Case 104)	43 10th pregnancy		Cancer of cervix uteri in first stage	Turning	Labour protracted over 3 days. Oblique position of child. Turning	Dead	Died	Rupture of uterus.

H.—Cases in which Incisions were made into the Cancerous Cervix, but which ended unfavourably.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
86	Malgaigne, Chantreuil op. cit., p. 75	30th 3rd pregnancy	—	Cervix uteri, the seat of unequal hard tumours, of which 3, the size of a filbert, occupied the anterior lip; more numerous, but smaller tumours, separated by deep fissures, occupied posterior lip. Vaginal mucous membrane indurated, especially to the right. The patient did not suspect the disease, but enjoyed in other respects good health	Premature at 6½ months. Incisions. Ergot	The membranes having ruptured and no dilatation taking place. Two lateral incisions were made about 36 hours after commencement of labour. No hæmorrhage, no pain followed, but afterwards pains ceased, and vomiting set in 24 hours later. ʒss of ergot was given (child then alive). The next day there was fœtid discharge. Four days after the beginning of labour, a dead child was expelled. No subsequent hæmorrhage. Placenta followed naturally	Dead	Died 4½ days afterwards	Autopsy showed laceration of cervix. Softening and laceration of the cancerous tumours. No lesion of peritoneum, bladder or rectum. No pus in uterine, hypogastric, or ovarian veins. A collection of pus in left pleura, and some small gangrenous points in left lung, although the patient had never complained of anything referable to this part.
87	Simpson, op. cit., p. 500	—	—	Cervix indurated by carcinomatous induration at one side	Incisions into cervix and natural efforts	Patient had been ill for 3 days, was much exhausted, and pulse extremely rapid; cervix not at all inclined to yield. 2 or 3 small incisions were made through the indurated portion, and then deli-	—	Pulse never fell, and she sank in 2 or 3 days afterwards.	

88	Zeppenfeld, quoted from Hachmann	—	—	Cauliflower excrescence springing from anterior lip, filling the vagina, and involving bladder and rectum	Premature at 7 months. Incisions.	very was completed after 5 pains The os uteri not dilating, it was necessary to incise it	Dead	Died.	

I.—Cases terminated by Operations involving the Destruction of the Child, with favourable Results.

89	Galabin, Obstetrical Transactions, vol. xviii, p. 239	41 12th pregnancy	Symptoms began in first month of pregnancy	Carcinomatous growth, involving whole circuit of os uteri, extending to pelvic wall behind, and bladder in front; very thick and hard. Repeated hæmorrhage during pregnancy. Great anæmia and cachexia	Barnes's hydrostatic dilators and cephalotripsy: at term	After 6 hours dilatation, the largest bag having been ruptured, the os uteri would admit 3 fingers. The cephalotribe was then applied, but delivery was difficult. After three hours manipulation the os had become so dilated that it was possible to pass the whole hand through it	—	Recovered	Fœtid discharge, sloughing of a part of the growth, and pyrexia followed. Patient left hospital on the 60th day. Further progress not recorded.
90	P. R. Menzies (quoted by), but authority not given	—	—	Ulcerated carcinoma of cervix	Embryotomy	Fœtus expelled in fragments during ensuing 3 months	—	Recovered	Further history not given.
91	Oldham, London, Journal of Medicine, 1851, p. 206	39	—	A mass of ulcerating cancer in the cervix. Disease had not advanced so fast during pregnancy as Dr. Oldham would have expected	Craniotomy and crochet	Os uteri dilated to about the size of a crown piece; patient then getting weak and exhausted, immediate delivery was thought necessary, and craniotomy performed	—	Lived about a month	Cervix found to be the seat of malignant ulceration. Some ulcerated patches had perforated posterior wall of vagina, and communicated with peritoneum. A low form of peritonitis with purulent effusion.

J.—Cases delivered by Operations involving the Destruction of the Child, with Unfavourable Results.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
92	Angus Macdonald, Edinburgh Med. Journ., vol. xiii, p. 767, 1868	34 primi-para	More than 21 months	The whole cervix uteri replaced by a mass of cartilaginous hardness, which filled the pelvis in front	Incisions. Perforation and cephalotripsy (turning and forceps unsuccessfully tried)	After 20 hours labour the os was dilated from the size of half-a-crown to that of a crown piece. Incisions were made and turning attempted, but, owing to the obstruction formed by the cancer and spasmodic condition of uterus, without success. Then forceps applied, but could not be got to lock. Delivery then effected, with much difficulty, with cephalotribe. No considerable post-partum hæmorrhage, nor appreciable injury to passages	—	Died 5 days afterwards	Post-mortem imperfectly performed. Peritonitis, bronchitis, and albuminuria before confinement.
93	Dorrington, Provincial Medical and Surgical Journal, 1843, vol. vii, p. 6	35 8th preg. nancy	About 13 months before delivery	A difficult previous labour, owing to incipient disease of os uteri 21 months previously. Pain, fœtid discharge, and occasional hæmorrhages since; os uteri formed a large oblong irregular fissure, with	Premature at 8 months. Craniotomy	Pains vigorous and natural. After about 12 hours labour the os had dilated as much as it was thought it would do, and head was then perforated and extracted with crotchet and cranio-	Decomposing	Died in less than half an hour after delivery	On autopsy a laceration of the right side of cervix uteri was found not involving peritoneum. Cervix uteri on section seen to be converted into a cartilaginous-looking mass, nearly an inch thick in

				rated edges. Its posterior third seemed soft and dilatable, but the rest so scirrhous as to preclude all idea of dilatation. Much cachexia and œdema		efforts at extraction were continuous for 4½ hours. The hand was then introduced through the os to remove placenta			
94	Dietrich, Diss. Der. Krebs. des Geb. als Comp. der Geb. Breslau, 1868, p, 11	38 3rd pregnancy	—	Fœtid discharge and pain 13 months; profuse hæmorrhages 4 months. Upper 1½ inch of posterior vaginal wall infiltrated and fissured; posterior lip of os not to be felt; a funnel-shaped crater with rigid walls, at left of which was the canal of cervix; anterior lip of os thick, hard, wide, infiltrated; anterior wall of vagina not involved. The part easily broken down, and bleeding on examination	Premature at 7 months. Turning. Perforation	After 2 days pains the os was large enough to admit the points of 2 fiugers. After 3½ days labour the os was as big as a crown piece, and the breech presenting; the uterus tympanitic. A foot was brought down, and in the subsequent traction the trunk was pulled from the head. The head was delivered by perforation and crotchet. To remove the placenta the whole hand had to be introduced into the uterus	Decomposing	Died the next day	Autopsy showed much wasting. Peritonitis. Epithelial cancer of cervix, involving nearly the whole thickness of uterus, but not peritoneum or other adjacent parts. The peritonitis was believed to have begun at the commencement of labour
95	Valenta, Archiv. für Gynæcol., Bd. x, p. 405, 1876	7th pregnancy	2 years	Copious losses of blood during pregnancy. Extensive carcinoma of portio vaginalis and vaginal cul de sac	Craniotomy. Incisions into os	In the course of the labour pains went off. Douching; introduction of flexible catheter; ergot; plugging used without effect. Perforation then resorted to, os being 1⅞ inches wide. Incisions then had to be made and the craniclast applied	—	Died; date not stated	Autopsy showed a laceration, extending up to peritoneum. No peritonitis.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
96	Depaul, reported by Schmitt, Archiv. de Tocologie, 1876, p. 111	9th pregnancy	2 years	Constant hæmorrhage, wasting. The os uteri hard, thickened, presenting nodular projections, the left half of the posterior lip being the only part thus affected. Uterus a month before delivery, reaching "au niveau de l'epigastrium"	Pregnancy supposed to have reached $10\frac{1}{2}$—11 months. Delivery by disarticulation	Expulsive pains irregularly for about a month with fœtid discharges copiously. These pains became more violent; the uterus was swollen, and tympanitic on percussion; the os dilated to the size of a 5-franc piece; membranes ruptured and right shoulder presented; child extracted by disarticulation. Placenta removed by introduction of hand into uterus	Putrid	Died on the 8th day after delivery	Autopsy showed the lower part of uterus converted into indurated masses, which left no doubt as to their nature. No peritonitis. Gangrenous tissues around os.
97	Robert Lee, Clinical Midwifery, 2nd edition 1848, p. 90	41	2 years	Os uteri hard, irregular, and ulcerated. The symptoms of malignant disease of uterus had commenced 2 years before, and the pain and discharge became aggravated when conception took place	Craniotomy	After 24 hours labour the os was so little dilated that the presentation could not be ascertained. After 48 hours' labour, the os being still undilated, the head was perforated. On the third day the os opened enough to allow the crotchet to be introduced and the head extracted. The propriety of making incisions into the diseased os was considered	—	Died the next day	On autopsy the neck of the uterus extensively lacerated, presented the appearance of an irregular dark coloured, disorganised mass.

98	Ashwell, Guy's Hospital Reports, vol. ii, p. 247	38 5th pregnancy	From about the beginning of pregnancy	A carcinomatous tubercular deposit, extending from the left groin down to labium, involving upper part of nymphæ, and reaching to mons veneris. The most projecting parts ulcerated, and at the time labour was induced, the whole external parts of generation were involved	Premature labour induced in 7 months. Craniotomy	The membranes were punctured, and 19 hours afterwards labour pains came on. As the head was urged towards the outlet, it became evident that the latter would not allow its exit without tearing and probably much hæmorrhage. The head was therefore perforated, and then the child was quickly expelled. Scarcely any blood was lost	—	Died on 7th day	Numerous secondary deposits in other organs. Scirrhus deposit found post-mortem on anterior lip of uterus.
99	Herman, supra	30 8th pregnancy	21 months	Cancer of rectum	Cephalotripsy at term	Supra	—	Died on 4th day	Peritonitis.
100	Godson, Obstetrical Transactions, vol. xix, p. 40	—	—	Extensive epithelioma of cervix	Dilatation of os and cephalotripsy	Dilatation of os with Barnes's bags, turning, perforation at occiput and cephalotripsy. Though excessively rigid, the margin of the os apparently escaped laceration. Delivery tedious and difficult	—	Died on 12th day	

K.—Cases delivered by Cæsarean Section.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
101	Oldham, Guy's Hosp. Reports, vol. vii, p. 426	28 6th pregnancy	Not longer than pregnancy	Severe pain (sometimes "agonising distress"); abundant sanio-purulent discharge; occasional hæmorrhages. The whole lower segment of uterus converted into a mass of malignant disease, nearly filling the upper part of pelvis, without even a margin of normal tissue. The disease was deeply lobed and fissured, but the os uteri could not be made out, nor the presenting part ascertained	Cæsarean section. At or near term	Labour pains came on at or near term, the effect of which was to press the cancerous mass down into the cavity of the pelvis, but to cause no dilatation of os uteri. Cæsarean section therefore performed	Living	Successful	"Six weeks after operation the disease had shrunk somewhat, the discharge was not very abundant, she had been free from the ordinary cancer pains, and her general health was well supported. A moderate menstrual bleeding had lately occurred." Further progress not recorded.
102	Greenhalgh, Obst. Trns., vol. ix, p. 241, and British Med. Journal, vol. ii, 1867, p. 491	27 4th pregnancy	13 months before delivery	Epithelioma of cervix. Offensive discharge; repeated losses of blood. Cervix spongy and fissured, bleeding on the slightest touch; os patulous, crescentic, with concavity forwards; margin lobulated	Cæsarean section. At term	Operation performed before the accession of labour	Living. A small and feeble child	Successful	"For more than 6 months after the operation the disease, which was advancing rapidly, underwent considerable improvement, the hæmorrhage and pain ceasing, and the local affection dwindling to an almost inappreciable degree. The disease then again began steadily to advance, and ultimately destroyed her."

103	Newman, Obst. Trans., vol. viii, p. 343	27 6th pregnancy	7 or 8 months	Heaviness and dull pain about lower part of abdomen, with watery discharge, at times offensive. Tissue of cervix uniformly replaced by irregular nodulated infiltration of cartilaginous hardness; ulcerated posteriorly	Labour came on 6½ and 7 mos.: Cæsarean section	Labour pains having lasted 3 days, and os uteri not being enough dilated to admit finger, Cæsarean section was performed	Alive. Made some attempts to breathe	Successful	"Progress to recovery slow, but steady." Three months after operation "looks well, and is gaining strength rapidly." Local condition much the same. Termination not recorded.
104	Edmunds, Lancet, 1861, vol. i, p. 4	38 3rd pregnancy	2 years before delivery	Fœtid sanious discharge and lancinating pains, A hard, tuberculated, superficially ulcerated mass, about 2 inches in diameter, projecting into the vagina. One finger could be got through this unyielding mass, and presenting part felt	Cæsarean section. At or about term	Labour came on at about term, but after nearly 6 days' labour, no dilatation had taken place. Cæsarean section therefore performed	Living	Successful	Some peritonitis followed, but the patient was convalescent on the 14th day. Subsequent course not recorded.
105	Greenhalgh, British Medical Journal, 1867, vol. ii, p. 491	30 5th pregnancy	9 months before delivery	Constant pale red, brown and offensive discharge; pain; debility. A large epitheliomatous growth of the cervix, which nearly filled up the vagina, and from which she bled freely	Cæsarean section	Labour pains continued for 5 hours without having any effect upon the os uteri	Living	Died 69 hours after the operation	Autopsy. Whole of the neck and lower part of body of uterus involved in epithelial cancer. Peritoneum vascular, but no lymph. No secondary deposits.
106	Galabin, Obstetrical Trans., vol. xviii, p. 286	36 9th pregnancy	About 5 months before delivery	Constant hæmorrhage; offensive discharge; pain. Edges of os uteri irregular and ulcerated, and surrounded by a ring of densely hard cancerous infiltration, at least an inch in depth everywhere	Cæsarean section. At about 8th month	Pyrexia, pain, uterine contraction, with absence of signs of fœtal life, led to the performance of the operation earlier than was intended	Decomposing	Died 38 hours afterwards	Autopsy showed an early stage of peritonitis. Ulcerated cancerous surface involving peritoneum of Douglas's pouch.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
107	Greenhalgh, British Medical Journal, 1867, vol. ii, p. 491	29 1st pregnancy	—	A cancerous tumour of the rectum, which had reached such a size that in no part of the pelvis could more than the index finger be passed. Os uteri could not be reached	Cæsarean section. At a little beyond 8th month	Operation performed before the accession of labour	Living	Death on the 6th day apparently from exhaustion from vomiting	Autopsy showed no trace of inflammation. A tumour the size of two adult fists, springing from lower part of sacrum, blocking up pelvic outlet, and reaching to within half an inch of symphysis. No other visceral disease.
108	Hall Davis, Lancet, vol. ii, 1865, p. 699	34 7th labour	6 months before delivery	Hæmorrhages and pelvic pain. Vagina greatly contracted by a dense indurated deposit, so that it was difficult to pass one finger up to the os uteri, the posterior lip of which was also involved, though to a less extent. The surface was irregular and ragged, and the discharge offensive	Cæsarean section. At or near term	Labour pains came on at or near term. An attempt was made to apply forceps, but even one blade could not be made to pass. Cæsarean section than performed	Living	Died 41 hours after operation	Autopsy showed commencing peritonitis; dilatation of one ureter. Posterior three-quarters of vagina ragged, sloughy, infiltrated with cancer. The greater part of posterior lip of os infiltrated with cancerous tissue.
109	Zweifel, Archiv für Gynæcol., Bd. x, p. 405, 1876	—	—	An enormous cancer of pelvic cavity	Cæsarean section. At beginning of 10th	—	Living	Death	Acute gangrene of the cancerous mass.

110	Schaefer, Zur Casuistik der Sectio Cæsaren bei carcinoma, &c., Breslau, 1976, p. 19	43 6th pregnancy	About 9 months	Pain, 9 months; constant sanious fœtid discharge 3 months. Wasting; vulva œdematous; vagina uneven, ulcerated, with masses of new growth, discharging blood and fœtid pus. The finger could not be introduced until with labour pains some softening took place, and then one finger could be got up to the os. The posterior and right vaginal walls principally affected	Cæsarean section. At beginning of 9th month	Pains came on at beginning of 9th month. After pains had lasted about 15 hours Cæsarean section was performed. Uterine wound closed with catgut sutures	Living	Died 52 hours after operation	A considerable quantity of clotted blood and bloody serum in peritoneal cavity; uterine sutures found to have become loosened and untied. Cervical portion of uterus and the whole upper part of vagina converted into a greyish-white, hard, in parts cheesy, mass, with a gangrenous smell. Cause of death believed to be the intra-peritoneal hæmorrhage.
111	Braxton Hicks, Meeting of Obstet. Soc. London, May 1st, 1878 (Med. Journals)	11th pregnancy	About 2 years	Rectum surrounded by a malignant deposit, and recto-vaginal septum consolidated into a dense and unyielding mass, nearly filling the vagina	Cæsarean section. At beginning of 9th month	Feverishness, followed shortly by labour pains, set in the day before operation, patient being about 8 months pregnant. Cæsarean section. Uterine wound closed by carbolised silk sutures	Living	Died 24 hours after operation	On autopsy uterine wound found gaping, every stitch having been torn away. A small quantity of grumous purulent fluid in peritoneal cavity. Much vomiting for 12 hours before death.
112	Routh, quoted from Cohnstein (Case 75)	—	—	Ulcerated cancer of os and cervix	Cæsarean section	After 90 hours labour	Dead	Died 5 days after	From peritonitis.

L.—CASES WHICH ENDED IN RUPTURE OF THE UTERUS.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
113	Hecker, Monatsschr. für Geb., vol. xxxi, p. 296	45 11th pregnancy	—	Tolerably severe hæmorrhage during pregnancy. A peculiar nodular condition of posterior lip of os uteri, the anterior lip on the contrary, thin and intact	Died undelivered. Incomplete rupture of uterus	After 36 hours' labour the waters broke, and on examination a tumour found in front of uterus. (Blood.) Os uteri the size of a gulden. Died about 48 hours after commencement of labour, in collapse. Child extracted by turning after death	—	Dead	Autopsy showed rupture of uterus, not involving the peritoneal covering. About 2 pounds of blood extravasated underneath peritoneum, reaching from utero-vesical cellular tissue to right kidney. A firm mass, about 2 cm. thick in posterior lip of os. Shown by microscope to have the characters of "medullary sarcoma." Secondary cancerous nodules in pleuræ.
114	Scholz, quoted by Chantreuil, op. cit., p. 48	3rd pregnancy	—	—	Died undelivered. Rupture of uterus	Died from exhaustion during labour, which, in spite of strong uterine contractions, had been ineffective in expelling the child	—	Death	Autopsy showed uterus torn below, and as if perforated by ulceration. Child outside uterine cavity, among the intestines. Uterine walls presented a scirrhous hardness as big as the palm of the hand.
115	H. Davies, quoted by Lee, op. cit.	—	—	Cancer	Rupture of uterus	Labour at full period; uterus ruptured	—	Death	Death speedily followed delivery.
116	Abegg, Monatsschr.	41 10th	—	Cancer of the vaginal portion, with extensive	At 8th month of	Severe hæmorrhage. Child extracted by the	—	Death from peritonitis	At the autopsy a good-sized fibroid was found,

	für Geburt., Bd. xv, p. 27	preg-nancy		cancerous infiltration of the uterine parenchyma	preg-nancy rupture of uterus.	feet, after the rupture, through which the head had escaped into the abdominal cavity			in posterior wall of uterus.
117	Robert Lee, Clin. Mid-wifery, 2nd ed., p. 91	—	—	Malignant disease of os uteri	At 7th month. Vectis	The os uteri did not dilate sufficiently to allow the fœtus to pass, and it was extracted by the vectis. Symptoms of ruptured uterus soon followed	—	—	The whole orifice and neck of the uterus was destroyed by cancerous ulceration, and the anterior part of the cervix was lacerated.
118	Chantreuil, op. cit., p. 89	43 11th preg-nancy	—	Cervix indurated, rigid, infiltrated by carcinomatous product; fissured	Trans-verse presentation. Rupture of uterus	After 3 days' labour, the os was about 1½ inch wide. The hand presented. The operator introduced his hand into the uterus without great difficulty, but found the child in the abdominal cavity. A foot was seized, and child was drawn back and delivered per vias naturales. Placenta followed without hæmorrhage	Dead	Died an hour and a half afterwards.	
119	Oldham, London Journal of Medicine, 1851, p. 204	33 5th preg-nancy	7½ months	Frequent hæmorrhages and watery discharge. Pain less than usual in carcinoma uteri. Malignant disease (at 7th month of pregnancy) had already destroyed a considerable portion of both lips of os uteri, leaving a hole big enough to admit two fingers. It was unusually hard and rigid	Patient was allowed to go her full time; pains came on and uterus ruptured	Fœtus presented with breech. Cervix yielded somewhat to pains, but anterior wall felt like a mass of hardened mortar. After about 12 hours of labour pains, sudden collapse and death	Dead	Fatal	Rent in posterior wall of uterus, through which fœtus protruded. Body of uterus healthy; disease confined to cervix. Vagina healthy.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
120	Martin le Jeune, Mémoires de Médecine, Paris, 1835, p. 280	—	No symptoms before pregnancy	Sharp and constant pain; vomiting, colics, and metrorrhagia. Border of os extremely hard; a tumour on left side	Rupture of uterus	Uterine pains came on at 6th month; watery discharge at first clear, then brownish, as if mixed with meconium. Some days after a cracking sound was heard in the abdomen; the discharge became purulent and fœtid; there was hectic fever, and patient died about 9 months after beginning of pregnancy. (Dates not clearly given)	Dead	Death	Uterus adherent to lower part of abdominal walls, mostly to left. Fundus in epigastrium. Reddish fluid in abdomen. Above and to right, uterus presented a fissure size of a 30-sous piece, of which the circumference was gangrenous. Inferiorly, a part of the body and the whole of the neck presented an enormous scirrhous tumour, which obliterated the orifice. Uterine cavity contained a child of ordinary size, macerated and shrivelled, but not putrid.
121	Martin le Jeune, op. cit., p. 282	49 Multipara	A long time	A tumour adherent to the whole extent of the posterior vaginal wall, the prolongations of which merged into the os uteri, which they closed; its surface irregular, as if fringed, and fœtid fragments could be broken off; it was not tender. Irregular hæmorrhages during pregnancy	Labour came on at 6½ months. Rupture of uterus	Regular, continuous, and strong pains produced no dilatation of os. Tumour almost entirely filled up the vagina. After 24 hours' labour os dilated a little, and tumour came lower down. After 2 days' labour, without further progress, suddenly the abdomen became tympanitic, the patient's	Dead	Death 12 hours after supposed rupture. Emphysema of abdominal walls before death	Autopsy refused.

						cries ceased, and she became faint, and as if choking. In the left side of abdomen was found a hard projecting tumour, which was considered to be the back or feet of the child, having passed through a rent of the uterus, which no longer formed the projecting tumour it had done before			
122	Kiwisch, quoted from Cohnstein (Case 134)	—	—	Cancerous infiltration of cervix	Died undelivered. Rupture of uterus	—	—	Died.	
123	D'Outrepont, Abhandlungen und Beiträg. Geb. Inhalt., 1822, Erst Theil, p. 276	34 1st pregnancy	—	Uterine symptoms 4 years (since marriage). Soreness of external genitals. Vagina hard, thickened, uneven, knotty, contracted. A cauliflower-like growth, resembling condylomata, filling the pelvic inlet. Deep fissures were felt between the parts of this growth, but neither uterus nor os uteri could be felt. Examination followed by hæmorrhage. Hæmorrhage of fœtid discharge during pregnancy	At term	With the 4th pain the patient screamed, complained of pain in left uterine region, sighed, shivered, became slightly convulsed. The child could then be felt under the abdominal walls. D'Outrepont saw the patient within 1½ hour after this; she was then dead, and he opened the abdominal cavity and removed the child	Dead	Died almost immediately	Autopsy showed a rupture of uterus on its left side, 6 inches long. The child, placenta, and much blood were in the peritoneal cavity when laparotomy was performed. No trace of the cervix uteri or os externum could be found; it was converted into the cauliflower-like mass mentioned. Posterior wall of bladder, ureters, and rectum were cancerous. Uterus seemed thinner at the seat of the rupture than elsewhere.

M.—Cases in which the Patients died Undelivered.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
124	Hesse (Horn und Nasse's Archiv, 1832), quoted by Hachmann	40 12th pregnancy	About 2 years since last confinement (?)	Hæmorrhages 2 years; fœtid discharges 3 months; cachexia. Os uteri surrounded with cartilaginous excrescences. 2 fingers could be introduced into a canal 1½ inches long, closed above by the internal os	Died undelivered at or near full term	Liq. amnii escaped; next day symptoms of peritonitis; 4 days afterwards labour pains without producing any dilatation of os; attempts were unsuccessfully made to manually dilate it. She died 7 days after escape of liq. amnii	Well developed child, decomposing	Death	Autopsy showed evidence of peritonitis and metritis. Lower segment of uterus in part indurated; os uteri not dilated and perfectly unyielding.
125	P. R. Menzies, Glasgow Medical Journal, vol. i, 1853, p. 129	28 8th pregnancy	Uncertain	Os uteri closed and firm; a nodular flattened mass of cartilaginous density overlapping the os, thickened, hardened, and tuberculated	Died undelivered at 17th month	Irregular pains like those of labour continued with varying severity for 7 months after the expected termination of pregnancy	—	—	Autopsy. Os consisted of a firm and tough ring, as hard as cartilage, of a pale bluish white colour; very resistant to the knife. This condition affected the lower fourth of the uterus. Fœtus not decomposed.
126	Depaul, Chantreuil, op. cit., p. 43	32 8th pregnancy	Symptoms began about a fortnight after pregnancy	Pain; hæmorrhages; fœtid discharges. Cervix uteri gone. Os the size of a 2-franc piece, its borders of woody hardness; orifice completely obstructed by a rounded tumour not projecting into the vagina, and as hard as the surrounding tissues. A small chink	Died undelivered	Pains came on at about 8th month, and continued for about a month, without producing any dilatation; uterus at length becoming of stony hardness from almost continuous contraction. There were frequent hæmorrhages, arrested by perchloride	Decomposing, macerated	Dead	Autopsy showed traces of peritonitis. Putrescent condition of interior of uterus. Carcinoma invading uterine orifice in all its circumference, the thickening being more to right than to left.

				mour and uterus		more and more violent a little dilatation was perceived, and then incisions were made, which rendered the application of forceps possible; but the head, which was flaccid from decomposition, could not be held. Patient died 10 minutes after the incisions			
127	Oswald, Siebold's Journal, vol. v, p. 156, 1825	7th pregnancy	5 months before death	The middle of the pelvis filled with a projecting, fleshy, for the most part cartilage-like mass, which gradually merged into the vaginal wall. The finger could be passed through an opening in this up to the internal os uteri, but not further. The mass could easily be torn. Severe hæmorrhages	Died unDelivered	Pains came on prematurely and lasted about half a day, then went off	—	—	3 weeks after the attempt at labour the patient died without great pain, but with great prostration. No autopsy.
128	Denman, Introduction to the Practice of Midwifery, 6th edition, 1824, p. 235	—	—	A large fleshy tumour at the extremity of the vagina (resembling and nearly equalling in size the placenta), growing from the os uteri. The largest excrescence Denman had ever seen. Alarming hæmorrhages during pregnancy	Perforation. Died undelivered	Tumour was so large that there was no possibility of the head passing it; it was thought impossible to remove the tumour, therefore perforation was performed. Many fruitless attempts to extract the child, after which patient was so exhausted that it became necessary to leave her to repose; soon after she died	No marks of putrefaction	Death	No disease in other viscera. A large cauliflower excrescence found growing from anterior part of os uteri

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
129	Ramsbotham, loc. cit.	—	—	Os uteri partially destroyed by cancer, the remainder richly studded with scirrhous tubercles. Patient worn down to the lowest ebb of life	Died in labour (undelivered) from exhaustion	Death had just taken place when Dr. R. got to her. Child not alive, and therefore no effort made to extract it. Os uteri the size of half-a-crown	—	Death	Os uteri found post-mortem to be partially ulcerated, the principal portion thickened and exceedingly indurated.
130	Simpson, Obstetric Works, Watt Black's ed., p. 498	—	—	Extensive cancer of the cervix uteri	Undelivered	Efforts at labour seemed to come on more than once, when and after mother thought gestation had reached its term	—	Death	Died undelivered, apparently from peritonitis. Extensive effusion of lymph on surface of uterus, but no rupture.
131	Robert Lee, Clinical Midwifery, 2nd edition, p. 498	—	—	A great soft fungoid tumour growing from the entire circumference of the os uteri and the cervix in an indurated state. Hæmorrhage	Died undelivered	Great hæmorrhages and vomiting, from which she died, no attempt having been made to expel the child	Decomposing	Death	Os and cervix were both extensively disorganised from cancer.
132	Miller, London and Edinburgh Medical Journal, 1844, p. 279	37 8th pregnancy	Between 7 and 8 months before death	Os uteri affected in its entire circumference, but especially on its posterior aspect, with deep rugged ulcers; the walls of the uterus, as far as the finger could reach, thickened and indurated. Lancinating pains, fœtid sanious discharge	Died undelivered at full term	No symptom indicating labour had appeared	Decomposing, evidently had been dead many days	Death	Autopsy showed acute peritonitis. Cervix uteri involved in its entire extent in deep rugged ulceration, and the surrounding parietes, for fully 1½ inch, were thickened and indurated; on the left side the induration extended as the broad ligament in the form of a circular tumour.

133	Oldham, Guy's Hosp. Reports, vol. vii, 1851, p. 436	36 multi-para	more than a year	Irregular hæmorrhages, watery discharges, severe pains in loins and hips. Cervix converted into a mass of malignant disease, particularly hard and unyielding	Cæsarean section was intended, but the patient was so much exhausted from hæmorrhage and discharges, that it was abandoned	No distinct labour pains came on. Uterus seemed to be in a state of tonic contraction. Severe hæmorrhages occurred shortly before pains. Presenting part could not be reached	Fœtus decomposing	Rigors, vomiting, rapid prostration. Death	Liq. amnii had escaped. Breech was flattened and pressed down into a cancerous mass. No rupture of uterus. Full layer of fat on abdominal walls.
134	Elias von Siebold, Journal for Geb. &c, Bd. 3 p. 49, 1819	31 3rd pregnancy	5 months before death	Dull sacral pain; watery, sometimes sanious fœtid discharge; coitus painful, and followed by discharge of dark fœtid blood; great loss of strength. A firm, irregular tumour, size of a hen's egg, in vagina, growing by a thin pedicle from the vaginal portion; characteristic cancerous fœtor. Three months before death it was cut off with scissors, considerable hæmorrhage following. After this the symptoms improved. A month after, the excrescence had returned	Died undelivered, 5 months pregnant	Copious diarrhœa, hectic, no sign of labour, preceded death	—	Dead	Autopsy showed vagina ulcerated, but no communication with abdominal cavity or with rectum. Vaginal portion destroyed, but internal os closed; a fœtus in utero, judged from its size to be at the beginning of the 6th month.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
135	Pfannkuch, Archiv. für Gynæcologie Bd. vii, p. 169	42 13th pregnancy	At least 6 months	Daily hæmorrhage; abdominal and sacral pain; urinary and rectal tenesmus. Whole anterior vaginal wall and lower part of uterus formed a hard uneven tumour, beginning almost immediately behind the symphysis, and extending on each side close to the pelvic wall. The hinder part of cervix soft and healthy to the touch. Much tenderness and slight hæmorrhage on examination	Died undelivered	She was believed to have fully reached, if not exceeded, the normal term, but no pains came on. She sat up in bed to drink and fell back dead	—	—	Autopsy. The tumour was a large medullary carcinoma; it affected the whole cervix except two fingers breadths of the posterior part of bladder, and the broad ligaments almost to the pelvic wall; not the rectum.
136	Roulston, Association Medical Journal, 1856, p, 830	34 7th pregnancy	A year	Continuous vaginal discharge, offensive, sometimes bloody. Pregnancy not suspected till 7th month. A firm lobulated mass almost occluding the vagina; parts of it breaking down under pressure of examining finger	Died undelivered	Uterine action accompanied with hæmorrhage. Dilatation of vagina attempted with sponge plugs, but given up after 2 days trial on account of the pain caused. Presentation ascertained to be natural	Fœtal heart pulsated till day before death	Died 20 days after commencement of labour pains	Body much wasted. No disease in uterine walls. Vagina infiltrated with cancerous deposit throughout its whole extent, thickness being in some parts 2 or 3 inches. Bladder showing signs of inflammation and disintegration Ureters dilated. No cancer in any other organ.

137	Pachur, Schmidt's Jahrbücher, vol. xxiii, p. 76, 1839	3d 7th pregnancy	Muths.	Severe pain in lower abdominal region, and very fœtid vaginal discharge; neck of womb affected with cancer	Spontaneous abortion	Pregnancy not suspected. Pains came on suddenly; in 24 hours a 4 months fœtus expelled, with frightful pain	Temporary improvement; death in 7 weeks	The patient found herself at first somewhat better; but the improvement was of no long duration, and death followed in the 7th week.
138	F. W. Mackenzie, Obst. Trans vol. i, p. 11	—	—	Scirrhous contraction of rectum, about 4 inches above anus. A hard scirrhous deposit, about the size of a pigeon's egg, in anterior segment of cervix	Abortion induced at 14th week	Abortion induced by injection of water into the uterus, supplemented by galvanism. The process lasted 4 days. Comparatively little hæmorrhage or pain	Recovery rapid and satisfactory	Remained recumbent about a week, and on resuming her domestic duties felt stronger and better than she had been previously to operation. Termination not recorded.
139	Levret, Essai sur l'abus, &c. Art, xiii.	—	—	—	Abortion at 3 months	In each of these the fœtus was putrid, and the placenta putrid, and discharged in fragments, which were difficult to distinguish from pieces of slough, which for some time came away from the os uteri	Survived a year	Both were treated by "les grands remedes," and by different methods, without effect.
140	Levret, op. cit.	—	—	—	Abortion at 2½ months		Survived 2 years	
141	Sommer, Starkes Archiv. fur Geburtshülfe, 1791, p. 288	37 7th pregnancy	More than 7 mos. probably nearly 3 yrs.	Hæmorrhage gradually increasing in quantity and frequency. Pain in hypogastric and sacral regions. On examination, scirrhus uteri found	Abortion between 4 and 4½ months	Few, but extraordinary severe pains	Survived 4 months	Pains, fœtid discharge, and hæmorrhage continued; finally, perforation of bladder and rectum, with incontinence of urine and fæces.
142	Lever, op. cit. p. 227	1st pregnancy	—	Carcinoma uteri at time of marriage	Abortion between 3rd & 4th month	—	Recovered	In 5 months again became pregnant.
143	ditto	2nd pregnancy	—	—	Again aborted	—	Recovered	In 3 months again pregnant.

No.	Authority and reference.	Age and number of pregnancies	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Immediate result to mother.	Further history.
144	Lever, op.cit.,p.227	3rd pregnancy	—	—	Aborted in a few weeks	—	Died in 8 weeks	Ulceration speedily followed the last abortion. Its progress was rapid, and in 8 weeks she died.
145	Lever, on pelvic tumours obstructing parturition, (Case 26.)	—	—	Cauliflower excrescence	Abortion at 4th month	Hæmorrhage accompanying the miscarriage was very profuse	Recovered	In 6 months time again pregnant.
146	ditto	—	—	—	Abortion at 13th week	Hæmorrhage most alarming; it reduced her powers to so low an ebb, that she	Lingered for some weeks, and then sank.	—
147	Laubreis, Siebold's Journal für Geb.,vol. vii, p. 409	42 1st pregnancy	About 4 months	Cutting and burning pain; hæmorrhage, fœtid discharge, excoriating the neighbouring parts; emaciation, hectic. Os uteri open, admitting the finger; hinder part of os as thick as the thumb, hard, rough, studded with excrescences, painful and bleeding when touched. Hardness and irregularity extended over the whole vaginal portion	Spontaneous abortion at end of 3rd month	Severe hæmorrhage accompanied abortion, and recurred afterwards; there was great pain	Died between 4th and 5th days after abortion	Rigors and "signs of sphacelus" followed the abortion. No autopsy.
148	Crosse, Midwifery, p. 49	Und.40 several previous pregnancies	More than 3 months	Pain; foul, stinking discharge; an ulcer in os uteri; "emaciated and haggard from suffering and discharge"	Abortion at 4th month	—	Died 3 months afterwards	No autopsy.

149	Meissner Quoted by Hachmann and Cohnstein	—	—	Scirrhus of the anterior lip of the os	Abortion in 3rd month	With severe hæmorrhage	—	—
150	Elias von Siebold, cas. cit. (13)	—	—	—	Abortion in 2nd month	Terribly severe hæmorrhage, from which her death was expected; but she survived	—	Final result not stated.
151	Herman, supra	33 9th pregnancy	5 months	Cancer with fixation of cervix	Abortion induced at 5 months	Destruction of part of growth with actual cautery, and dilatation of cervix with laminaria tents	Died 7 months afterwards	Much relief to symptoms followed abortion.
152	Lever, Pelvic tumours obstructing parturition, Case 29	4th pregnancy	2½ years	Posterior part of vagina in a state of scirrhous ulceration; ichorous and offensive discharge, alternating with hæmorrhages; rapid emaciation	Abortion at 5th month	Hæmorrhage alarming; pains violent and long-continued, lasting a long time without expulsion of ovum, which being felt protruding through the stricture of vagina was removed "with a little manipulation"	Lived for 4 months afterwards	"A miserable spectacle, for 3 weeks after the abortion the recto-vaginal partition ulcerated through.
153	Michaelis, from Cohnstein, Case 52	40 multipara	—	Cauliflower excrescence hanging down from os uteri in vagina	Aborted in 5th month	—	Died shortly after delivery	Hardly any symptoms during pregnancy.
154	Burdach, from Cohnstein (Case 78)	—	—	Far advanced cancer of cervix	Abortion in 4th month	—	Died	—
155	Kiwisch, from Cohnstein (Case 132)	—	—	Cancerous infiltration of cervix	Abortion	—	Recovered	No marked acceleration of the cancerous change.
156	Kiwisch, from Cohnstein (Case 133)	—	—	Cancer of cervix	Abortion	—	Recovered	No marked acceleration of the cancerous change.

o.—Cases in which the cancerous part was removed during Pregnancy.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
157	Benicke, op. cit., p. 34	30 2nd pregnancy	—	Hæmorrhages, leucorrhœa. Vaginal portion deeply fissured, the posterior lip of os formed an irregular, easily bleeding, tumour, about as big as a pigeon's egg. At about the end of pregnancy the cancerous mass was cut away with scissors and sharp spoon, and actual cautery applied to the raw surface; there was little hæmorrhage. Symptoms then ceased.	Natural efforts; at full term	Labour came on 5 days after the operation; it lasted less than 11 hours; hardly any bleeding.	Living	Uninterrupted recovery	4 months afterwards the disease had returned, and another operation was performed. No further record.
158	Benicke, op. cit., p. 345	30 2nd pregnancy	About 3 months before abortion	Vaginal portion swollen, puffy, lips of os everted, showing deep red, nodular, cervical mucous membrane. A piece removed showed it to be indubitably cancerous. At about 5 months pregnancy the vaginal portion was amputated with knife and scissors, there was moderate hæmorrhage, which was stopped with actual cautery.	Abortion at 5 months	Abortion on day following operation. Placenta tolerably firmly adherent, requiring to be manually removed. Endometritis decidua diffusa	—	An elevation of temperature on following day; otherwise recovery normal	5 months after there was no sign of any return of the disease.

159	Benicke, Zeitschrift für Geb. and Gyn., 1877, Bd. I, p. 340	34 7th pregnancy	4 months before delivery	Hæmorrhages and pain. Posterior lip of os uteri fissured, irregular, this condition extending up to the inner os; easily bleeding on examination. Diagnosis of cancer not at all doubtful. At about the end of 7th month of pregnancy the cancer was scooped out. Very little bleeding followed operation.	Labour premature (end of 7th month); natural efforts	Labour pains came on a week after the operation. No difficulty. No great hæmorrhage either during or after labour	Living (about 30 weeks intra-uterine age)	No disturbance of convalescence	Hæmorrhages and fœtid discharge returned about 3 months after delivery. Date of death not recorded.
160	Benicke, op. cit., p. 341	4th pregnancy	Symptoms began during pregnancy	Recurring hæmorrhages, profuse discharge. Posterior lip of os uteri thickened, uneven, nodular, easily bleeding. A suspicious ulcer on anterior lip. At about the 5th month of pregnancy the cancer was removed as completely as possible with scissors and sharp spoon; the ulcer on anterior lip also excised. After this symptoms ceased completely	Natural efforts (at term)	Labour lasted 6 hours. Adherent placenta, but no other difficulty	Living	Uninterrupted convalescence	8 weeks after delivery symptoms returned, and a repetition of the operation was contemplated. No further record.
161	Benicke, op. cit., p. 342	3rd pregnancy; convulsions after former labours	2 months before delivery	Pain; profuse hæmorrhages. Vagina filled with a nodular, firm tumour with fissured surface, springing from posterior lip. At 6th month of pregnancy tumour removed with wire ecraseur; Douglas's pouch opened; not much hæmorrhage: symptoms of peritonitis followed.	Premature natural efforts	On the 11th day after operation a dead child expelled by the feet; course of labour normal; bleeding slight. Convulsion seizures, with albuminuria (no casts) on 4th day	Dead	Discharged from charity on 19th day after operation	No further record.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
162	Schröder, Archiv. für Gyn., Bd. X, p. 405, 1876	—	—	In 5th month of pregnancy, amputation of vaginal portion; opening of Douglas's pouch; recovery. No hæmorsubsequent to operation. No pain	Natural efforts (at term)	Severe pain shortly before delivery. Natural labour. No hæmorrhage	Not stated	Recovered	Died suddenly 6 weeks after delivery.
163	Galabin, Obstetrical Transactions, vol. xviii, p. 242	31 11th pregnancy	About 13 months before delivery	Constant hæmorrhage; hypogastric and back pain; an epitheliomatous growth was removed with galvanic écraseur when patient was about 4 weeks pregnant, and the stump about a fortnight subsequently freely cauterized. All symptoms ceased	Artificial dilatation of cervix and version, at term	Labour pains came on at term. The cervical canal was then about an inch long, the whole circuit of the os surrounded by malignant growth. The cervix was dilated; first with tents, then with Barnes's dilator. When the os would admit 3 fingers, version was performed. Much traction was required to bring the head through. Considerable hæmorrhage from cervix followed delivery	Living	Recovered	Patient left hospital a month after delivery. Four months afterwards the disease had greatly advanced. Pyrexia during 15 days or more after delivery,
164	Spaeth, from Cohnstein (Case 105)	29 3rd pregnancy	—	Large cauliflower excrescence springing from the posterior lip of os, and projecting in the genital fissure. Vaginal portion strongly dragged down. Excision of tumour at 8th month	At 8th month	8 days after excision of tumour rupture of membranes. Breech presentation. Normal labour except manual extraction of head	Dead	Recovered	Very severe hæmorrhage during pregnancy.

165	Todd, from Cohnstein (Case 4)	36 multi-para	—	Cancer of posterior lip; amputated in 2nd month of pregnancy	At term	Easy labour	Living	Recovered.	
166	Savory, Obst. Trans., vol. xvii, p. 82	35 9th pregnancy	10 months	Hæmorrhage, alternating with fœtid watery discharge, shooting pains in iliac and sacral region. When about 5 months pregnant a large cauliflower growth was removed, with arrest of symptoms	Delivery premature by 5 or 6 weeks	Labour unusually rapid; neither hæmorrhage nor laceration	Dead	Recovery uninterruptedly good	Two years subsequently the disease had returned.

P.—CASES IN WHICH THE DISEASED PART WAS REMOVED BY THE SURGEON OR SPONTANEOUSLY EXPELLED AT THE TIME OF DELIVERY.

167	Dieterich, op. cit., p. 18	37 3rd pregnancy	About 7 mos. before delivery	Hæmorrhages 7 months. The anterior lip of os enlarged, forming a kidney-shaped tumour, about 2 in. thick by 3 in. long; its length lying transversely. Posterior lip thin and extensible	At term. Removal of part of the disease; incisions; forceps	After pains had lasted about a day without progress being made, a large part of the anterior lip was removed with the loop of the galvanic cautery. No bleeding from the cut surface. Pains continued frequent and strong; the posterior lip yielded, but not the anterior. Incisions were then made into cervix, and forceps applied. To avoid bruising of the diseased anterior lip, incisions were made into the perineum	Living	Died on the 5th day	Autopsy showed peritonitis. The whole cervical portion presented a necrotic, spongy, pulpy mass, reaching down to the insertion of vagina; from its cut surface a creamy juice could be squeezed. Vaginal losses of substance, covered with a diphtheritic layer.

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
168	Arnott, Medico-Chirurgical Trans., vol. xxxi, p. 37	38 Multi-para	Anterior to 5th month of pregnancy	"Anterior lip and right side of os uteri occupied by a hard, rugged tumour of oval form, and of the size of a large green walnut." "Gushes of blood" during pregnancy	Excision of tumour with scissors	The posterior lip of os was soft and thin; but after 2 days' labour pains the os would only admit two fingers. Immediately after the operation (in which not a teaspoonful of blood was lost) the os expanded uniformly, and the child was born in a quarter of an hour	Living	Good recovery	Patient remained well for some months; then attacks of hæmorrhage recurred. An examination was made 8 months after delivery and the disease found to have recurred in the posterior lip of os. She died 16 months after delivery.
169	Michaelis, Neue Zeits. für Geb., Bd. iv, p. 176, 1836	30 7th pregnancy	9 weeks before delivery	Hæmorrhage, severe pain. A soft, cauliflower-like growth springing from the anterior lip of os uteri and filling the vagina. Posterior lip rough, uneven, knotty	Removal of the growth. Turning	Shoulder presentation. Growth removed with scissors, with only slight pain and bleeding. Child then turned	Decomposing. Well-developed	Recovered. Nothing unusual about convalescence	7 days after labour the degeneration of posterior lip was found to have increased. 2 months afterwards the growth from posterior lip was as big as that removed at time of confinement, and symptoms of cancer of stomach. Further course not ascertained.
170	Meigs, Obstetrics, 4th ed., § 730	33 3rd pregnancy	From beginning of pregnancy	Frequent hæmorrhages. Posterior lip of os uteri prolonged into a tumour, which bled at the slightest touch. evidently a mass of cancer in ulceration. It occu-	Natural efforts. Tumour expelled. (Slightly prema- ture,	Much hæmorrhage in early part of labour. Dilatation was effected solely at expense of anterior part. After 12 hours' pains the whole projecting mass of the	Not stated	Died in 24 hours	Autopsy showed no evidence of either hæmorrhage or peritonitis. Death apparently from shock.

						attendant. No great increase of hæmorrhage followed this, and about half an hour afterwards the child was expelled			
171	Lever, op. cit., p. 224	—	—	Hæmorrhages during pregnancy, no pain. The whole os uteri affected with malignant diseases of a fungoid character; anterior part of cervix indurated	Natural efforts	Labour lasted 48 hours. A very large piece of the diseased mass was torn away, and forced before the head of the child	Decomposing	Convalesced very quickly	On examination after delivery the chasm left was so large that the hand might readily have passed into the uterus Patient lived for six months after, and then died from vaginal hæmorrhage.

Cases as to which information is too incomplete for Classification.

172	Lumpe, Schmidt's Jahrbücher, vol. cix, p. 310, 1861	30 multipara	Longer than the pregnancy, less than 2 years	Medullary carcinoma had spread over the whole vaginal portion	Footling. Head delivered with forceps	Dilatation of os uteri went on without delay and without considerable bleeding	Dead, asphyxia.	—	—
173	Burdach, Schmidt's Jahrbücher vol. xvii, p. 58	39 4th pregnancy	—	Pain in pelvic region; vesical and rectal tenesmus and pain; fœtid vaginal discharge; wasting. The whole os uteri changed into hard and partly ulcerated nodules the size of a hazel nut	—	—	Dead	8 hours after delivery copious hæmorrhage	Death some months afterwards.
174	West, Diseases of Women, 2nd edition, p. 407	—	—	Extensive cancerous disease of the womb	—	"The os dilated readily to admit of the passage of the child, and the labour was but of a few hours' duration."	—	—	—

No.	Authority and reference.	Age and number of pregnancies.	Duration of disease.	Chief symptoms and signs indicating cancer.	Mode of delivery.	Details of labour.	Result to child.	Immediate result to mother.	Further history.
175	West, op. cit., p. 407	—	—	—	—	"The comparatively small part of the cervix which was not implicated in the disease stretched beyond what might have been supposed possible, and in spite of the unyielding condition of the bulk of the cervix thus made room for the passage of the child."	—	—	—
176	Caseaux, Treatise on Midwifery, Part 5, Chap. vii, § 13	45 multipara	—	Posterior vaginal wall occupied by an elongated tumour, which extended from the posterior lip of cervix to within an inch of the vulva; its surface was irregular and nodular, its hinder part confounded with the recto-vaginal septum	Natural efforts	Dilatation effected very slowly, though completely, at the expense of the narrow lip. The tumour rendered the second stage of labour more tedious than usual. The child's head pushed it backwards and passed in front of it.	—	—	—
177	Schelle, from Cohnstein (Case 30)	40	—	Cancer of the vaginal arch spreading to the vulva.	—	—	Living	Died after 8 days.	—
178	Putegnat, Journal de Med. de Bruxelles, vol. li, p. 34,	40 3rd pregnancy	—	Abundant sanious fœtid discharge, sometimes hæmorrhage; severe lancinating pains; a "large and deep cance-	—	No details given	Living	Died 2 days afterwards.	—

				uterine neck, especially behind					
179	Madame Lachapelle, op. cit., p. 371	—	—	A condition of cervix uteri similar to Case 7	Spontaneous, vertex presentation at 7 mos.	Labour lasted 60 hours; A 7 then three spontaneous months fissures of os gave passage to the child	—	Termination not recorded.	
180	Hugensberger, from Cohnstein (Case 61)	38 9th pregnancy	—	Cancerous infiltration of vaginal portion. Os uteri ulcerated	Natural efforts	Os uteri opened after 96 hours' duration of labour pains	Living	Was "transferred."	—

The PRESIDENT considered that the conclusions which Dr. Herman had arrived at were sound and practical. As evidence of the rapidity of the growth of the disease during pregnancy he remembered a case under his care, many years ago, at St. Bartholomew's Hospital, of a woman suffering from incipient soft cancer of the uterus. After the husband's return following a long absence, pregnancy occurred, and rapid increase of the growth ensued; abortion between the fifth and sixth month resulted.

Dr. MATTHEWS DUNCAN said, that this paper had a greater value than any former essay on the subject, because, through Dr. Herman's diligence, a larger collection of cases was made available for founding direct conclusions than any other author had used. Besides, the reasoning or inductions were made with discrimination. Dr. Duncan would call attention to the well-known frequency of miscarriages in cases of pregnancy complicated with cancer, because this paper afforded valuable evidence that these miscarriages were, in a large proportion, owing to death of the fœtus. This was particularly interesting at present, as illustrating a matter that was attracting great attention, the influence of anæmia and other cachexies in causing intra-uterine death. In his paper, Dr. Herman showed a tendency to adopt a mode of speaking, too common in British literature and in American, which placed the forceps and version in a position of antagonism to one another. Now there was no proper justification of this antithetic description of the use of these modes of delivery. Each plan had its own sphere of utility. It was common to name a lump of pelvic contraction as the criterion for deciding which operative procedure should be used. But the matter was not to be so decided, in bony contraction nor in cancerous, for, in addition, other circumstances could never be justly excluded if the best decision was to be made. Among these circumstances were the shape and general size of the pelvis, the stage of labour, the state of the membranes, the position of the head, and the state of uterine retraction. Statistics could not be made to decide a matter like this; for there would be always a swelling of the figures in favour of the forceps, seeing that they were sure to be used in a large majority of the cases, such large majority of course including the easier cases, which were far the most numerous. In this country many cases passed as mere forceps cases from inertia, which were cases of pelvic contraction, this condition being much more frequent than is generally supposed, though not so frequent here as in Germany. The results of version and the results of forceps were not fit subjects of simple comparison with a view to settling thereby their applicability. Each operation had its own sphere. Dr. Herman wrote his paper on the principle that the mother's life was more valuable than the child's. This was no doubt true, but it required

grave modification when there was cancer of the mother. Yet, so far as Dr. Duncan could at the moment see, this modification of the value of the maternal life made little difference if any in the actual treatment of cases. Dr. Matthews Duncan would add, that he had seen a large number of cases of cancer, after delivery, in which the disease was so advanced as to leave no doubt that it had been present at the time of delivery though quite unsuspected then. The long persistence of bloody discharge led to investigation and discovery of the disease not previously known to be present.

Dr. Gervis referred to the value of the local application of the perchloride of iron solution to the incisions Dr. Herman had advised, both to check the immediate haemorrhage and to lessen the chance of subsequent septic infection. He also thought that Dr. Herman had somewhat undervalued the efficacy of the hydrostatic dilators. In cases of rigidity of the cervix from carcinomatous infiltration he had found them of great service, and especially in conjunction with incisions. An occasional cause of unfavorable results in cases of Cæsarean section, was the extension of malignant disease upwards, so as to invade the tissues in the neighbourhood of the uterine incision. In a case in which he had performed Cæsarean section on account of malignant disease of the cervix completely occupying the pelvic cavity, this had contributed, he believed, to the unfavorable result. The patient lived to the third day. The child still survived. Dr. Gervis spoke, in conclusion, of the great value of Dr. Herman's paper.

Dr. Heywood Smith, pursuing the argument of Dr. Matthews Duncan as to the paramount importance of the child's life in such cases, urged that it would be more advantageous for the child to allow the pregnancy to proceed to term, as the induction of premature labour might sacrifice the child, and was not without risk to the mother. He mentioned a case in which an indurated malignant cervix had come away during birth as a ring round the child's neck, and that the mother made a good recovery. He also thought that the fatality hitherto of the Cæsarean section need be no argument against its future employment, inasmuch as antiseptic surgery had rendered abdominal sections less hazardous than formerly.

Dr. Braxton Hicks had never used incisions, but had found the combination of chloroform inhaled, and the use of the dilative bags, of great value in overcoming the rigidity. He considered the bags preferable either to forceps or turning.

Dr. Godson called attention to the rapidity with which cancer spreads during the period of involution. He had seen many advanced cases within a few months of delivery, in which no symptom of the disease existed previous to parturition. His experience was in support of Cæsarean section in preference to

craniotomy. In the two cases in which he had performed the latter operation, in consequence of cancer of the cervix uteri and vagina, the patients died within a few days of their delivery; both children were to all appearance healthy, and their lives might have been spared had Cæsarean section been performed.

Dr. Edis remarked that, as to the cancerous cachexia proving detrimental to the life of the child, he had recorded one case before this Society where labour came on spontaneously at full term in a patient with extensive malignant disease of the cervix uteri, and where delivery of a healthy living child was effected by the aid of the forceps. The mother succumbed with pyæmic symptoms, but the child was living still.

Dr. Galabin could add the testimony of a very extreme case to the evidence which had been brought forward to show that hydrostatic dilators might, in some instances, afford valuable service. It was one which had been previously reported to the Society, in which the whole circuit of the os was involved in cancer, and not even a commencement of dilatation occurred after rupture of the membranes. Tents and dilating bags were used, and version afterwards performed by the bipolar method, and a living child delivered. If the treatment had been commenced by the plan of incisions, which Dr. Herman considered less dangerous than the use of dilators, the incisions must have been very extensive to allow the head to enter the os sufficiently to form a dilation. As it was, the patient recovered from the puerperal state without more serious symptoms than such as might be considered inevitable. He thought the case also tended to show that the half breech after version might sometimes prove a more advantageous dilator than the forceps, and one less likely to do injury to the maternal tissues. At the time when bipolar version was performed, the blades of the forceps could not have been introduced without risk of causing dangerous laceration. In this instance, after amputation of the cervix in early pregnancy, pregnancy had been allowed to go on, but he now thought it would have been advisable to induce abortion, so rapid was the advance of disease during pregnancy and shortly after delivery.

Dr. Herman said that a cancerous cervix, unlike a healthy one, usually expanded by fissuring. Dilating bags produced this fissuring as a result of continuous pressure. By incising the cancerous cervix, the same result was attained without the lengthened pressure. In thinking that this prolonged pressure did harm, he was supported by the few cases on record in which they had been used. He had endeavoured to show that cancer tended to produce intra-uterine death of the child. That being so, he thought that sometimes, by inducing premature labour, a child might be born alive, which would have died in utero had the pregnancy gone to term. He thought that this possibility

might be put against the smaller chances of life possessed by premature children. He did not think the antiseptic system would greatly modify the mortality of Cæsarean section; for death after this operation was often due to loosening of the uterine sutures, and hæmorrhage, or escape of secretions, into the peritoneal cavity, a casualty no antiseptics could prevent. He thought the physical characters of the cancer of more importance, from an obstetric point of view, than its extent. If the cancer, although far advanced, were soft, and much broken down, delivery might be easy; while a cancer in a comparatively early stage, but very hard and resisting, might cause great difficulty.

CASE OF APPARENT ABSENCE OF UTERUS.

By G. Mowat.

Communicated by Dr. John Williams.

In January last, M. W—, æt. 25, married, complained of deafness. On inquiring about the state of her health, it transpired that she had never menstruated. As there did not appear to be any pretext for examining her sexual organs at that time, directions were given for the treatment of the deafness, and she was advised to take a chalybeate.

On July 16th she again presented herself, and reported that the deafness had disappeared, but that there was no sign of the catamenia.

There is nothing in the appearance of the young woman suggestive of any abnormal condition. She is of average height, by no means masculine-looking; the mammæ are fairly developed; the vulva well formed; the mons veneris is prominent and covered with hair.

On examination, the finger passed between the labia does not penetrate more than two inches into a blind pouch, where it is impossible to detect anything like an uterus, neither can any substance resembling it be detected by pressure over the pubes, nor with a finger in the rectum

and a sound in the bladder. The mother of this woman died when she was quite a child, and the absence of menstruation at the usual age and for some time after was overlooked. She has an indistinct impression that on one occasion there was a slight coloured discharge, but she cannot be said to have experienced menstrual molimina. Her sister is married and has two children.

Dr. Routh considered that there was no proof of the uterus being absent in this case. No positive decision regarding this could be arrived at, unless the whole hand was introduced into the rectum with a sound in the bladder.

Dr. John Williams thought that in the majority of cases bi-manual examination, with one finger in the rectum and a hand on the abdomen, would suffice to detect even a small uterus. In those cases in which the organ was represented by a small fibrous mass, its presence might escape the most careful examination—the detection of such masses was sometimes difficult even in the dead body.

Dr. Edis thought that in the majority of instances the absence of the uterus might be detected by means of the sound in the bladder and finger per rectum without having to resort to inserting the hand per rectum. Conjoined manipulation also proved of much service.

NOVEMBER 6TH, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the chair.

Present—55 Fellows and 9 visitors.

Books were presented by Dr. Aveling, Dr. P. Rudin, Dr. L. D. Bulkley, Dr. A. S. Campbell, Dr. Harris, of Madras, Dr. Paul F. Mundé, the Edinburgh Obstetrical Society, and the American Gynecological Society.

William Burton, L.R.C.P. Ed., and Thomas Robert Judson, M.R.C.S., were admitted Fellows of the Society, and H. Macnaughten Jones, M.D. (Cork), and William Ernest Dring, M.D. (Boughton-under-Blean), were declared admitted.

The following gentlemen were elected Fellows:

Izett William Anderson, M.D. (Jamaica), Edmund Overman Day, M.R.C.S., John Chamberlin Eaton, M.R.C.S. (Ancaster), Richard Ellery, L.R.C.P. Ed. (Plympton), Louis Henry, M.D. (Melbourne, Victoria), Nathaniel H. K. Kane, M.D. (Kingston Hill), Albert Angus Macdonald, M.B. (Toronto), and George Mowat, M.R.C.S. (Swansea).

The following gentlemen were proposed for election:

Wm. John Vereker Bindon, M.D., Benjamin Browning, L.R.C.P., Arthur Flint, M.R.C.S. (Westgate-on-Sea), Rustomjee Naserwanjee Khory, M.D. (Bombay), Walter Culver James, M.D., James C. P. Muir, L.R.C.P. Ed.,

Fred. Nicholls, M.R.C.S. (Toronto), and Albert C. Butler Smyth, M.R.C.S. (Brighton).

Dr. A. E. Aust Lawrence showed the uterus and appendages of a woman who died from rupture of the right Fallopian tube. The patient was admitted into the Bristol General Hospital suffering from endometritis, and for this Dr. Lawrence applied nitric acid to the interior of the uterus, after previously dilating the cervix with a tangle tent. The woman did well for four days, when she developed symptoms of peritonitis, and died in three days. The post-mortem disclosed general peritonitis, most marked in the pelvic region. The left Fallopian tube was dilated into a cyst, the right tube was very much dilated and thickened and had given way, the contents escaping set up peritonitis, the interior of the uterus presenting the usual appearance of granular endometritis. Dr. Lawrence did not attribute the fatal termination to the application of the acid. The immediate cause of the rupture of the tube was probably its over-distension by menstrual secretion, the portion which had become very thin giving way under the pressure. The act of menstruation was coincident with the development of peritonitis.

Dr. Barnes asked if the rupture of the Fallopian tube appeared to be recent. He had met with a case recently at St. George's Hospital of a woman who died before he had an opportunity of seeing her; the autopsy showed that death was due to escape of matter into the peritoneal cavity from rupture of the Fallopian tube, peritonitis ensuing. He could not believe that the application of nitric acid in Dr. Lawrence's case had anything to do with the fatal result.

Dr. Braxton Hicks thought that the manipulation of the tangle tent might have been the exciting cause of the rupture of the Fallopian tube, quite independent of the application of the acid.

Dr. Playfair considered dilatation unnecessary previous to applying nitric acid. He had in a large number of cases employed the acid without any evil consequences, but he never dilated the cervix.

Dr. Edis had applied the acid frequently without any bad

results, and he was satisfied that the fatal issue had nothing to do with it.

The PRESIDENT thought that the specimen showed the disease of the Fallopian tube to be of very long standing, and there was no doubt that it gave rise to death. Dr. Lawrence might accept the unanimous verdict of "not guilty" as regards the application of nitric acid producing the fatal issue in his case.

Dr. AVELING exhibited a Regulator to be used with Paquelin's Cautery. It was a simple and inexpensive screw tap, made by Messrs. Mayer and Meltzer, which could be added by any one having a thermo-cautery simply by cutting the tube an inch from the handle and inserting the extremities of the regulator into the cut ends. By turning a screw any heat may be produced and maintained.

Dr. BRUNTON exhibited an infant suffering from double cephalhæmatoma. It was the first instance of the kind he had seen, though he had notes of several single ones.

Dr. HAYES showed the uterus and appendages of a woman, æt. 41, who was admitted into King's College Hospital in September, 1878. Has had one child. Three years ago noticed a small tumour in right side of abdomen; menstruation been regular, but for last three or four months somewhat profuse. No floodings. No offensive or watery discharge. Considerable pain in hypogastrium and back for about six months, with loss of flesh and strength. This pain has been intense for two or three months. Six weeks ago she was in a Metropolitan Hospital, when the abdomen was tapped. Ovariotomy was proposed, but she would not assent. Now, however, owing to the extreme pelvic pain, and general abdominal distress, she desires the operation to be done.

Condition.—Emaciated. Face worn and anxious, with a straw-coloured hue. Abdomen distended, and obviously occupied by a fluctuating cyst of large size. By vagina, uterus quite fixed—cervix high up. Lips of os uteri uni-

formly enlarged and hardened, with a "creaking" feel to the fingers—not nodulated, on contrary, smooth. Os gapes, but no sprouting or friable tissue felt inside. No fœtor, but some blood on examining finger. Legs œdematous. Œdema out of proportion to abdominal distension. No albumen.

Diagnosis.—Unilocular ovarian cyst. Carcinoma of the uterus and pelvis. Patient sank in the course of three weeks. Treatment consisted in relieving pain by morphia and the œdema of legs by puncture.

Autopsy.—Great emaciation. Legs œdematous, especially the right. On cutting through abdominal wall a cyst is seen to occupy the whole abdomen, reaching from the brim of pelvis to costal margin. Only a few slight adhesions between it and viscera. Stomach with omentum and transverse colon above and in front of cyst, ascending colon between it and abdominal wall, descending colon behind it. Small intestines all pushed over to left side, lying between cyst and abdominal wall in front of colon. The cyst is unilocular, and contains about two gallons of thick, brownish fluid; its posterior walls thickened, and small nodules (carcinomatous) on internal surface. It is attached by a short broad pedicle to right corner of uterus. Left ovary is equal in size to a large orange, rounded and very firm, except superficially, where there are a few cysts; cut surface has a dense greyish-white appearance. Uterus is uniformly enlarged, and is closely adherent behind to a dense mass (carcinomatous), reaching downwards into pelvis and upwards into abdomen. Uterine walls thickened and very firm—no roughening of the mucous membrane. The os gapes; lips large, broad, and firm. In posterior wall of cervix a collection of soft and decaying tissue.

The carcinomatous growth behind the uterus firmly compresses the right ureter and both iliac veins. Right kidney greatly wasted; pelvis and ureter above obstruction, much dilated. Left kidney hypertrophied. Both suprarenal capsules considerably thickened (cancerous). Left kidney, liver, pancreas, and bladder, studded with small

nodules (carcinomatous). Abdominal peritoneum apparently healthy.

On section the abnormal growth is for the most part very firm and of a greyish-white colour. Little or no juice on squeezing, except from some of the lumbar and pelvic glands and visceral nodules.

Remarks.—The case is brought before the Society chiefly because the diagnosis of carcinoma was arrived at by means of uterine signs; and this, notwithstanding that the uterus was only secondarily and apparently for a short time affected. The cyst was of such size that all abdominal signs of the concurrent disease were masked.

TWO CASES OF RUPTURE OF THE VAGINA DURING LABOUR.

By A. L. Galabin, M.A., M.D., F.R.C.P.

ASSISTANT OBSTETRIC PHYSICIAN AND JOINT LECTURER ON OBSTETRICS TO GUY'S HOSPITAL; EXAMINER IN OBSTETRIC MEDICINE TO THE UNIVERSITY OF CAMBRIDGE.

The following cases appear to me to be worthy of being recorded together, from the rarity of the accident, and the similarity of its causation, although its result was not precisely the same in the two instances.

Case I.—The patient, Mrs. W—, was thirty-seven years old, and was under the care of Mr. Sharman, of Gipsy Hill. She was a publican's wife, and was enormously fat, so that, although her stature was short, her weight was seventeen stone. She had previously had eight living children, all of which had been delivered naturally except the last. On that occasion, as the pains were beginning to cease, and labour was not making much progress, Mr. Sharman completed the delivery with forceps.

On the present occasion labour pains commenced about 8 p.m. on May 28th, 1878. The waters were said to have broken that evening, but the pains did not come on at all vigorously until the next morning. Mr. Sharman was summoned at 7 a.m. on the 29th. He then found the os to be fairly dilated, but the head still high in the pelvis, which appeared to afford ample space. Soon after 9 a.m., the head having up to that time still not descended into the pelvis, the patient got out of bed, and was heard to be straining violently upon a night-stool, the attendant being at the time in the next room. On his return to the room Mr. Sharman found that the head had rapidly descended to the perineum, and almost immediately, at about 9.30 a.m., the head was expelled. No further uterine action occurred, and as the child was becoming asphyxiated, it was easily extracted by traction. It was a plump female of the ordinary size, and was living. At the end of twenty minutes, as expulsion of the placenta could not be procured by other means, moderate traction was made upon the funis, but it broke and came away, leaving the placenta behind. On introducing his hand Mr. Sharman felt a substance which at first seemed somewhat to resemble placenta, but recognising that it had a peculiar and unusual feel, he brought it carefully into view at the vulva, and then found it to be large intestine, its character being plainly marked by the longitudinal bands. This diagnosis was confirmed by two other medical men who afterwards saw the patient, and it was thus clear that some rupture had occurred, although no unusual amount of hæmorrhage had taken place externally. In hope of reaching and bringing away the placenta, the hand and arm were introduced into the vulva as far as the elbow, but it could not be felt.

Being summoned in the afternoon to see the patient, I arrived about 5 p.m. She was then moaning, and breathing rapidly; the pulse was 112, but of fair strength. There was great tenderness and distension of the abdomen, and she would scarcely allow its surface to be touched

or any digital exploration to be made. I found that there was a rent in the vaginal wall at its attachment to the cervix posteriorly, so that the cervix was separated from the vagina for fully half its circumference. The os uteri was closed too tightly to admit the finger, and the immense thickness of the abdominal walls rendered it impossible to make out the size of the fundus. There were no intestines in the vagina, but higher up could be felt a small tongue of soft tissue, somewhat resembling the stump of the funis. On subsequent examination under an anæsthetic, however, it appeared rather to be either the vermiform appendix or some portion of lacerated tissue.

Under the circumstances I feared that to attempt any more complete exploration of the uterus, to ascertain whether the placenta were retained within it, would involve a risk of separating it entirely from the vagina, since it was impossible to command the fundus by the external hand. It appeared to me that the only possible chance for the patient would be to open the abdomen, sponge out the blood from the peritoneal cavity, and search for the placenta. If it could not be found elsewhere the interior of the uterus might then be explored.

This operation was commenced at about 7 p.m. with the assistance of Mr. Sharman and Mr. Atkins. When the patient was under chloroform, a final attempt was made to reach the placenta per vaginum, but it could not be felt. In dividing the abdominal wall a layer of fat fully three inches in thickness had to be cut through. On the first puncture of the peritoneum dark blood spurted out in a jet, so that it was at first supposed that a large vein had been divided. It proved that there was a collection of about two pints of blood beneath the abdominal wall in front. As the blood was evacuated the intestines began to protrude in the line of incision. They were lying in front of the uterus, which was in a position of slight retroversion. Without much search the placenta was discovered, also lying in front of the uterus and upon the top of the bladder, somewhat towards the left side,

and was easily removed. The peritoneal cavity was then sponged out, but it appeared that some bleeding was still going on at the seat of laceration, and the retro-uterine fossa could not be got quite dry. It was noticed that the blood removed from the abdomen had a peculiar smell, like that of the early lochial discharge.

After the operation the patient slept for some hours during the night, but vomiting commenced early the next morning, accompanied by other symptoms of peritonitis. She died between 3 and 4 a.m. on the 31st, about forty-two hours after delivery.

As to the mechanism of the accident it would seem probable that the rupture commenced when the patient was straining on the night-stool, and was completed by the pain which expelled the fœtal head through the vulva. It seems necessary also to suppose that at this moment the whole body of the fœtus was extruded out of the uterus and partially into the peritoneal cavity, and that the placenta was also expelled and passed through the rent behind the cervix into the peritoneal cavity, the vagina being occupied by the shoulders and trunk of the fœtus. This appears to be clear from the fact that no recurrence of uterine action was noticed, and that if the placenta had been expelled by the uterus after the extraction of the fœtus it would have been found in the vagina.

The enormous size and laxity of the patient's abdomen seemed to render it likely that when she was straining upon the night-stool the uterus might have been in a position of extreme anteversion. If a vigorous pain occurred under such circumstances an undue strain would be thrown upon the posterior wall of the genital passage, and the position of the rupture might thus be accounted for.

It is more difficult to account for the placenta having got into the position in which it was found, lying in front of the uterus and upon the top of the bladder. It is possible, however, that in returning the intestines the

placenta might have been indirectly pushed upwards and forwards by their means.

Case II.—The patient, Johannah R—, was forty-one years old, and had previously had ten normal deliveries. She was attended in the Guy's Hospital Charity. On December 6th, 1875, I was summoned to see what was said to be a case of placenta prævia. On my arrival I found that considerable hæmorrhage had occurred, but that the pains had ceased since its commencement. This at once suggested the possibility of some rupture having taken place, but no symptom of sudden shock, pain, or collapse had been noticed, and the pulse was of good strength although rapid, its rate being nearly 120. The abdomen, however, was tender and distended, and the patient would not allow it to be manipulated. It was not apparent that the parts of the fœtus were more manifestly tangible than usual.

On vaginal examination, no presentation could be felt, and the finger penetrated a long way without meeting with resistance. Something could be just touched, which rather resembled the lower edge of a placenta with its amniotic surface posterior. Chloroform was then administered, and a more complete exploration made by the introduction of the hand into the vagina. It was then apparent that there was a laceration between the posterior edge of the cervix and the vagina for more than half of its circumference. What had been mistaken for a presenting placenta was the posterior wall of the uterus, the cervix being rather deeply cleft bilaterally. The posterior peritoneal surface of the uterus had been taken for the amniotic surface of the placenta. The fundus uteri could be felt in front, and appeared to be empty. It was thus evident that both the fœtus and the placenta must have escaped through the rent in the vagina into the abdominal cavity. The head could now be recognised at the upper part of the abdomen.

It afterwards appeared that, about four hours before the commencement of the hæmorrhage, the patient had been seen by another extern attendant, who had found the

vertex to be presenting. As, however, the os uteri was then not dilated, and the pains were slight, he had soon left.

Under these circumstances, I think there can be no doubt that the best treatment would have been to remove the fœtus and placenta by gastrotomy. The patient's abode, however, was a most miserable one, and she and her friends were Irish, and utterly refused to permit any such operation.

On further exploration it was found that a foot of the fœtus lay temptingly within easy reach, and that there did not appear to be much pelvic contraction, although the sacrum was somewhat prominent. The previous ten normal deliveries were also evidence of the existence of a fair amount of space. I therefore brought down the foot and leg into the vagina and extraction was completed by the senior obstetric resident. It proved impossible, however, to bring the head through the pelvic brim, until the occipital bone had been perforated, and considerable traction applied. The extraction of the fœtus and the placenta was followed by the flow of a large quantity of blood, which had apparently been collected in the peritoneal cavity. Some fæcal matter was also found in the vagina, indicating some rupture of intestine. It is probable that some part of the intestine was caught between the fœtal head and the sacrum, although no portion of it could be detected within reach at any time during the extraction. Some hæmorrhage continued after removal of the fœtus, and the patient died within two hours after delivery. No autopsy was made. The child was a male, and of rather large size.

The necessity for perforating the after-coming head in this case, although ten previous children had been delivered naturally, illustrates the disadvantage of drawing the fœtus back through the laceration under such circumstances. The explanation is not difficult to find, for it is clear that, unless the uterus remained completely above the brim, the available conjugate diameter of the pelvis

would be diminished by the double thickness of the contracted uterine wall, which would be several times greater than the double thickness of the same uterine wall when expanded over the fœtus. On this account the extraction would be likely to prove more difficult than if the fœtus had escaped through a laceration in the uterus itself. In the present instance it would probably have been better to let the patient die undelivered rather than attempt the extraction, since the operation undoubtedly accelerated the fatal issue, which appeared to be immediately due chiefly to the loss of blood.

The mode of escape of the fœtus into the abdominal cavity, and the reversal of the direction of its long axis during that escape, can only be explained on the supposition that the uterus was unduly anteverted at the moment of rupture. The fœtal head must then have been driven by the uterine force backward against the promontory of the sacrum, and by that prominence have been deflected upwards into the abdomen instead of passing downwards into the pelvis. The whole of the fœtus and the placenta appear to have followed in the same upward direction.

Both these cases are instances, not of rupture due to a degeneration of any part of the uterine wall, but of the action of the uterus having proved too violent for the strength of its supports. It is possible, however, that the tissue of the vaginal wall may have been unduly lacerable. In both instances, too, the accident appears to have been due, not to any considerable degree of pelvic obstruction or protraction of labour, but to a violent pain having occurred while the axis of the uterus was abnormally directed, so that its stress fell upon the posterior wall of the genital passage instead of causing advance of the head.

The cases may, doubtless, be regarded as telling in favour of the principle of giving instrumental assistance comparatively early in difficult labour. It can scarcely be said, however, that in either of them, the use of forceps had been indicated; for in the first case, the head had been above the brim until a few minutes before the rup-

ture, and in the second, it had remained so throughout. In patients who had had numerous normal deliveries, probably few obstetricians would have recourse to the high forceps operation, before the os had been dilated for more than two or three hours, and while there was no elevation of pulse, or sign of nervous distress.

Dr. Barnes considered the cases important as showing that spontaneous rupture of the vagina may occur during labour. Had the forceps been employed on either of these cases the practitioner would probably have been blamed for the result, and the laceration have been attributed to his manipulation. In fat women the tissues give way under slighter forces. Cases of ruptured vagina occur suddenly in morbid tissues, and before there is any indication on which to act.

Dr. Cleveland referred to a practical point in the first case, and suggested that it might prove a useful warning, under all circumstances, to employ the utmost gentleness in attempting to bring down the placenta by traction on the funis. Although there was no evidence that undue force had been used, yet the fact remained that, had the cord not been unfortunately broken, the placenta might have been cautiously traced to its resting place, and removed without the operation. He believed there were few cords that would bear the strain required for the removal of a placenta unaided by other manipulative and expulsive efforts.

Dr. Matthews Duncan had, not long ago, been consulted by the Crown in a medico-legal case where the second of twins was born after a vaginal rupture. Both children were spontaneously born. The bowels prolapsed. The mother died. He had also some years ago seen a case of rupture of the vagina in a difficult labour to which he was called by a practitioner who did not suspect the accident, which was made out before delivery. In this case there was no especial complaint, no prostration or collapse. After delivery the woman was bandaged with as little complaint as if she had not had a rupture which proved fatal in a few days. When the great majority of such ruptures takes place, the cervix and vagina form one tube whose parts were distinguished chiefly by the line of external os projecting. The vagina might rupture or the cervix might rupture, but the body did not. Vaginal ruptures were not rare, forming about a third of the whole.

Dr. Gervis gave some particulars of two cases of ruptured vagina, in one of which the child and placenta had both escaped into the peritoneal cavity and remained there undetected for forty-eight hours; putrefactive changes having begun; and in the

other the rupture occurred in a labour in which the forceps had been used, and the collapse was attributed, prior to the detection of the vaginal rent, to the continued influence of the anæsthetic.

Dr. Roper remarked on the common features of these two cases, each woman had had a large number of children (one was immensely fat), and the abdominal walls had become weakened, constituting the "pendulous belly" of pregnancy. He had seen such cases where the laxity of the abdominal muscles allowed the pregnant uterus to fall so far forward that its fundus pointed downwards. The dragging of the uterus over the pubes elongated the vagina by drawing it upwards out of the pelvis, and thus the posterior wall of the vagina especially became stretched even before labour commenced. The uterus lying at this angle to the pelvic brim cannot expel its contents; when it contracts, it can only drive the presenting part of the fœtus upwards and backwards above the promontory of the sacrum, and thus putting the posterior vaginal wall still more violently on the stretch. In such cases the presentation is always high up, even over the top of the symphysis pubis. The os uteri is generally soft and very dilatable though not dilated, for the axis of the child is so placed that the presenting part cannot be forced down in contact with the os to dilate it. Such labours are exceedingly long and painful, and likely to end in rupture of the vagina at that particular part described by Dr. Galabin. The immediate restoration of the uterus to its proper position, so that its long axis and that of the child may correspond to the axis of the brim, is the first important step in treatment, and then timely aid with forceps if needed.

Dr. Playfair said that, among other lesions, these interesting cases taught the importance of attending to the proper axis of the uterus being maintained by bandaging and position. Since in both cases it seemed that the laceration was in some degree promoted by the uterus acting forcibly in a wrong direction, so that the presenting part could not enter the pelvic brim. He was, however, specially anxious to point out that they seemed to him very strongly to teach the correctness of the practice he had long advocated, that after rupture of the uterus, when any considerable part of the child, or the placenta, had escaped into the peritoneal cavity, gastrotomy afforded the patient the best chance of recovery. This rule, however, was not yet generally taught in our obstetric works, and probably the majority of practitioners in the face of this emergency, would then adopt the old plan of withdrawing the fœtus or placenta through the rent in the uterus or vagina. Under such circumstances, a mass of blood being left in the peritoneal cavity, recovery was clearly impossible. In these days of advanced abdominal surgery no one could say that the incision through the abdominal parietes

would materially increase the risk of the case, while the sponging away of the extravasated blood, with proper antiseptic precautions, and careful attention to what the French called the "toilette du péritoine," so as to get rid of extravasated matters which if left to decompose would certainly lead to fatal mischief, would, at any rate, give the patient a chance of recovery. Who, for example, would have such a case as that related by Dr. Gervis without feeling certain that this plan afforded the only possible chance for it, and he would ask him what treatment was pursued in that instance.

SOME CLINICAL REMARKS ON A CERTAIN CLASS OF CASES OF ANTEFLEXION OF THE UTERUS, WITH CERTAIN CORRELATED CONDITIONS.

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In recording the following observations, I wish it to be understood that they are strictly confined to this one class of so-called anteflexion with certain associated conditions, and that the subject of flexions generally will be only incidentally alluded to by way of contrast. At starting, I will at once explain what I mean with respect to the class of cases now under observation as compared with flexions generally:—1. That they are congenital and are not the result of any pathological changes in the uterine texture, but are malformations of the whole or part of the organ. 2. That acquired flexions generally are associated with some pathological change in the uterine tissues, whether it be one of hypertrophy, atrophy, or degeneration. Here then is the great distinction I wish to be observed. The one class depends on congenital malformation or imperfect development, the uterine texture being healthy; the other on morbid changes in the uterine tissues or appendages. My observations will

now be entirely confined to the former class. The text books on diseases of women abound in diagrams and illustrations of anteflexion, and much has been written generally on this form of ailment; but I do not remember that it has been differentiated from other forms of flexion with that particularity it deserves. I think the best way to effect this differentiation will be by narrating the simple facts which are observed as physical signs. The sense of touch will tell that there is an antecurvature of the uterus running from the top of the fundus to the point of the cervix, extending the whole length of the organ. There is no one point in either the cervix or body at which a flexion exists, as in the pathologically flexed organ. These two conditions may be well illustrated by taking a piece of cane and bending it so that its ends are made to approach each other; this is curvature. If the same piece of cane be now broken in a manner so as to constitute a cane or greenstick fracture at a given point, and by this means the ends are made to approach each other, then we have a flexion resembling one of a pathological or acquired kind. In the first case there is a simple bending from end to end, constituting a curvature; in the second there is a sharp angle of flexion, produced at a definite place from structural mischief. In other words, the uterus is equally rigid throughout its length in the one case, and in the other there is a definite point of weakness and flaccidity. In one, movement of the cervix is always freely communicated to the body of the uterus, for they are one solid compact body, in the other the cervix may be freely moved about without the body of the uterus participating in the movement, for here they are in a great measure disconnected, being separated by an intervening portion of softened tissue. This condition of antecurvature has, for a long time, been observed by me and Mr. Day, our excellent house surgeon at the Waterloo Bridge Infirmary, and we always call it antecurvature as distinguished from anteflexion.

I shall not speak of the cervix as distinct from the body of the uterus, in these cases; except to remark that it is frequently found of imperfect formation, variously deformed; it may be short and small, long, pointed and small, blunt, round and thick, pointed and hooked. The orifice of the canal mostly very small. Apart from any actual deformity, the uterus is sometimes of diminutive size. By touch alone these physical signs may be observed. Further evidence is forthcoming by use of the sound, and here we at once come upon a fact which aids us in our conclusion regarding the character of the case. The sound frequently cannot be made to enter the cavity of the uterus, except with some difficulty; partly perhaps from the narrowness of the canal, partly from its sinuosity. The curve may not be very great, yet the difficulty of introducing the sound is sometimes considerable, and often the greatest resistance is at the upper part of the canal near the os internum. The sound having reached the fundus, we may succeed in straightening the organ, but on withdrawing the instrument the uterus at once returns to its original shape by means of its own elasticity. How different is the case in introducing the sound into a pathologically flexed uterus, however much bent, even to the degree of doubling, so that the top of the fundus looks in the direction of, and may even be on a level with, the point of the cervix; yet, with all this angularity, how easily the sound may be introduced (due allowance being made for the probability that the one uterus is multiparous, the other nulliparous). On withdrawing the sound from such a uterus after having, with much ease, rectified the position of the fundus, this does not spring back by its own elasticity; but passively drops into its malposition in consequence of its weight and its flabby connection with the cervix at the point of flexion.

I think I have said enough to establish a correct diagnosis of a congenitally antecurved uterus by physical signs. I need not enter into the errors which may lead to wrong diagnosis of anteflexion, such as mistaking for

it, fibroids or hæmatocele about the anterior wall of the uterus. Most gynæcological authors have described anteflexion to be of much more frequent occurrence than retroflexion; but they have not particularised the kind of anteflexion observed. My own experience of the pathological or acquired form of anteflexion is that it is very rare; much less frequent than that of retroflexion of the same kind. I do not remember to have seen an anteflexed uterus of the pathological or acquired kind so great in extent that the fundus hung down to the same level as the point of the cervix. There are, however, anatomical reasons which to a greater degree favour the descent of the fundus in a posterior rather than an anterior direction.

My chief object in referring to the greater frequency with which anteflexion has been said to exist by authors is to call attention to the axis of the perfectly shaped uterus, naturally situated in the pelvis. From an inclination of the fundus forwards towards the pubes, and of the point of the cervix somewhat backwards, so as to bring the axis of the whole organ into correspondence with the axis of the pelvic brim, the uterus naturally has an inclination towards anteversion, and the anterior surface of the uterus can generally be felt by running the finger upwards along the front of the cervix, giving an impression of morbid anteversion or anteflexion. We may go further than this, and say that the uterus is, in a measure, antecurved naturally, as indeed it is to a slight extent, to bring it into synclitism with the curve of Carus.

I cannot help thinking that those authors who have given us statistics on this subject, have regarded this naturally anteverted and antecurved state as abnormal, and hence the perpetuation of an error, for we find these statistics copied by one, from another in the text-books. I now come to the associated conditions of the abnormally curved uterus.

1. A misshaped vagina. This is often short and contracted at its upper part. It closely surrounds the

cervix leaving neither an anterior nor posterior pouch and may be called a short, conical vagina.

2. A short perinæum. This is sometimes thick and narrow, like a fleshy band separating the anal and vaginal orifices.

3. There is often a peculiarity in the growth of hair about different parts of the body. The hair of the pubes is extended along the linea alba and over the lower abdomen. The legs below the knees, as well as the forearms, are studded with hairs of a stiff bristly kind, and long hairs grow from the follicles of the mammary areola. This growth of hair occurs in very young women. It is not alleged that these abnormalities always exist in connection with the deformed uterus, but they are of frequent occurrence. So far as I know, they have not hitherto been observed nor placed on record.

Having enumerated the various anatomical conditions bearing on antecurvature, I will now speak of their physiological functions. As there are all degrees of these abnormally formed organs, so will there be corresponding defects in the performance of their functions. Most of the ailments the gynæcologist is called on to treat, in this class of cases, are the mere outcome of physiological functions imperfectly and with difficulty performed by organs anatomically imperfect. It is only natural to suppose that an anatomically defective organ will perform its duties imperfectly, and so we shall find it. It is only with the uterus, as with any other organ, as the eye or heart. The small malformed eye, which is hypermetropic, does its duty only imperfectly and with difficulty, and the heart with an unclosed foramen ovale or an open ductus arteriosus will but lamely perform its functions. This will be the proper place to say that the ovaries are left out of consideration in relation to this subject—physical examination of them is difficult; but from the tolerable regularity with which menstruation is observed, they seem to perform their function naturally. If we keep these views before us in the treatment of these cases, we shall much simplify what we

have to do. We have not to treat disease—what we have to do is to remove those anatomical obstacles which stand in the way, and produce difficult physiological function. Remove the anatomical imperfection and healthy physiological action will ensue.[1]

There are two chief difficulties of a physiological nature dependent on the kind of uterus I have described, to which our attention is clinically called—Dysmenorrhœa and Sterility. It can scarcely be doubted that the severe dysmenorrhœa of the antecurved uterus is of a mechanical, or what I prefer to call of an anatomical kind, the consequence of a narrow and curved cervical canal, constituting simple stenosis. Remove the stenosis, and healthy physiological action will result, menstruation will be easy, or as free from difficulty as can be expected in an imperfect organ. The treatment will therefore resolve itself into the method to be adopted for the removal of the stenosis. Different practitioners have advocated and pursued different modes of effecting this object. Thus there is—

(1.) Incision of the vaginal portion of the cervix.

(2.) The more extensive incision of the cervix in the greater part of its length even up to and through the os internum.

(3.) The immediate dilatation of the canal by means of instruments, which rapidly effect this purpose—dilators.

(4.) Gradual dilatations, with sponge or laminaria tents.

(5.) The plan of wearing for a considerable time intra-uterine stems.

(6.) The gradual mode of expansion, with metallic sounds or bougies.

(7.) The use of vaginal pessaries, mostly some modification of Hodge's pessary, not with the view, obviously, of having an influence on the stenosis, but with the object of straightening the curvature of the uterus. I will make

[1] It is intended to speak only of the immediate consequences in these cases. All secondary ills and remote consequences are beyond the scope of this paper.

only a few remarks on each mode of treatment, in the order above named.

1. Incision of the vaginal portion of the cervix. I have practised this in cases of a very curved or hooked form of the cervix, for the purpose of straightening the canal with a view to future treatment, of gradually dilating the narrowed canal, sometimes dividing the vaginal portion on its convex surface by a single incision with scissors, at other times by a bilateral incision. It no doubt facilitates the subsequent process of dilatation; but I have seen it followed by serious results, such as pelvic cellulitis and perimetritis, which, through a long and severe illness, seriously threatened the life of the patient. In this operation I have always carefully avoided making the incision too high up, so as to approach near the attachment of the vagina round the cervix. It is an operation I should always avoid except where the cervix is very curved or hooked.

2. The more extensive incision of the cervix in the greater part of its length even up to and through the os internum. This is an operation I have never performed, and therefore cannot speak of its merits or demerits. If we duly consider the anatomical relations of the inner os, it cannot be regarded otherwise than as a dangerous operation even in its immediate consequences, leaving those of a secondary kind unnoticed. I will only remark of it that it is an operation which I believe has received the condemnation, and I think justly so, of the most sagacious, sound, and conscientious practitioners.

3. The immediate dilatation of the canal by means of dilating instruments, which act not by gradually expanding the canal, but with a sudden force which produces laceration of its tissues, a process differing only from that of cutting in this respect that the one produces an incised wound, the other a lacerated wound. Of this mode of practice I have no experience. A lacerated wound extending the whole length of the cervical canal affords the prospect of a secondary consequence of a serious nature.

4. Gradual dilatation with sponge or laminaria tents. This method I have not practised. It has doubtless been successful; but secondary consequences have at times been reported as being a serious objection to it.

5. The plan of wearing for a considerable time some form of intra-uterine stem. This treatment I have pursued, but my experience of it does not justify me in speaking favorably of it. It produces much sacral and pelvic pain, profuse leucorrhœa, hæmorrhage, and often great irritation, sometimes going on to secondary consequences of a severe kind. This mode of treatment has very lately been strongly revived by Dr. Greenhalgh, who advises the use of an elastic stem pessary resembling that exhibited and described by the late Dr. Squarey before the Obstetrical Society, 1874.

6. Gradual expansion with metallic sounds or bougies. If with patient and gentle perseverance we can introduce, at first, a small-sized metallic sound, proceeding after a few days to increase the size of the sound; in two or three weeks, one equal in size to No. 12 or 14 can be easily introduced, and when this is accomplished the stenosis is removed. There is free ingress to and egress from the uterine cavity. I have usually allowed the patient to remain with the sound *in sitû* for half an hour after its introduction. This method is free from all the serious consequences of the other kinds of treatment, and, so far as my own experience goes, is highly satisfactory. It achieves all that is required. It overcomes the stenosis of the cervical canal. In bringing these remarks before the Society it might be considered incumbent on me to furnish evidence from my own practice of the want of success, and to give some examples of the serious results following the other methods of practice. I am glad not to be able to do this, as I have not felt inclined to perform those operations which are beset with danger, when a more simple, easy, painless, and safe operation has afforded a satisfactory issue. I need not say anything respecting the cure of sterility specially. It is self evident in cases

of this kind, that the same treatment which cures dysmenorrhœa also cures sterility. The cure of both is effected by rendering the cervical canal freely pervious.

The various forms of anteflexion pessaries, most of them some modification of Hodge's instrument, I have found to be quite useless and often hurtful.

The next point for consideration is the short and narrow, or conical vagina. This matters not in the unmarried, but when married life begins, and such a vagina is called into physiological action, the results are immediately distressing, and eventually often destructive of general health. There is dyspareunia more or less severe according to certain circumstances. Parametritis ensues, going on to involve most or all of the pelvic organs and tissues, and often on vaginal examination the uterus is found firmly fixed, cemented, as it were, in the pelvis by a mass of inflammatory induration. Let this inflammation be subdued by treatment and physiological rest, yet it will be ever recurring on resumption of conjugal life. The perimetritic inflammation will often so damage the fimbriæ of the Fallopian tubes and connect them with adjacent parts by adhesions, as to induce a permanent state of sterility. To the celibate this malformed vagina is unimportant, and any treatment is quite unnecessary. There is another condition which often exists in this class of cases, viz. vaginismus. This is an ailment very curious in its nature, and I hardly know whether to class it in the pathological category as belonging to structural disease, or to regard it as a nervous affection consisting merely of exalted functional activity, excessive or morbid irritability. In a paper published in the 19th volume (1877) of the 'Transactions of the Obstetrical Society of London' I described a very difficult case of labour at full term, in a woman, in whom there existed these abnormalities of uterus, cervix, perineum, and vagina, such as I have remarked on. She had been married thirteen years without being pregnant. The cervix was divided, and she speedily afterwards became pregnant. She had one of the most difficult labours I ever

saw, connected with a narrow vagina in a state of vaginismus. Much trouble was experienced in getting the head through the pelvic brim, and finally cephalotripsy was required. The pelvis was uniformly small and deep, without any special deformity. This patient again became pregnant. Dr. Wallace induced premature labour at the end of the eighth month of pregnancy. He has kindly reported in answer to my inquiry about the character of this labour, that, "with a fair pull through the brim there was no difficulty in the case; the child was a male and is alive. I consider hers to be a male pelvis, and the brim rather small without any deformity." Granted that the pelvis partakes of the male type, then we have in such a pelvis a greater inclination of the plane of the brim; for the angle which this plane forms with the upper part of the spinal column is in the male 155°, in the female 150°; hence, in order that the long axis of the uterus should correspond to the axis of such a brim, the fundus uteri must necessarily be thrown more forward and the point of the cervix more backward, a position approaching or simulating anteversion. The passage of the fœtus through such an inclined brim would also be rendered less favorable, hence the probability of a difficult labour. It will be interesting to know, from those who have had experience of this class of cases, whether after removal of stenosis and subsequent pregnancy, such labours are usually difficult. It is an interesting question to decide whether these several conditions have an interdependence, and are to be linked together as one great developmental defect pertaining to the whole or most of the organs concerned in reproduction, as one great system; or whether they are to be regarded as a simple assemblage of abnormalities the result of mere accident. The circumstance of their frequent coexistence seems to suggest some such significance. They all point to a departure from the typical perfections of womanhood. There is also in these cases a physiological defect, very frequently, though not always. There is an absence of sexual instinct, and an incapability of being sexually

excited. This condition is to be distinguished from dyspareunia—mere physical pain. The sexual act is distasteful, even abhorrent ,and is regarded with a feeling of loathing. It is to be regretted, in the interests of gynæcology, a subject, perhaps, somewhat narrow as a speciality, that it should be still more narrowed by the few opportunities afforded of realising the truth of diagnosis by post-mortem examination. Here clinical observation and experience do not go hand-in-hand with pathological demonstration after death, as in the branches of medical and surgical practice generally, for the pelvic organs only concern the functions of reproduction, not those of organic and animal life. Take, for example, a case from the class I have described.

The troubles connected with it only belong to that period of life comprised within the term of activity of the organs of reproduction. After the climacteric period is passed, when the organs fall into disuse and atrophy, these troubles mostly cease and are forgotten. Death, at some future time, happens from some disease of the more important organs of animal and organic life, and if a necroscopy be made it does not connect the uterine conditions observed in years gone by with what we now see in the post-mortem room. Hence it follows that those supposed facts which we believe we had observed during life are never proved to be true facts, but which may really have been so-called false facts. Thus there must ever be that uncertainty or conjecture, controversy or disputation, which seems to belong to gynæcology.

I feel I have, in a very imperfect manner, brought this interesting subject before the Society. Without a desire to be dogmatic I have endeavoured to be succinct. I have not referred to the great workers and authorities by name whose labours have been of such great value to us. I have thought that what the highest authorities have put before us can equally well be observed and appreciated by each humble and honest worker by his own observations. Whatever may be the shortcomings of this communication, I feel assured all its deficiencies will be supplied in its

discussion by those Fellows who are more able and experienced than myself.

St. Bartholomew's, Guy's, King's College, and the Westminster Hospital Museums contain no specimen of anteflexion. The one now shown through the kindness of Dr. Herman is from the London Hospital Museum. From this specimen the drawing is taken by Dr. Barnes, as an illustration of anteflexion in his work on the 'Diseases of Women.' It is thus described in the Museum Catalogue:

"A specimen of anteflexion of the uterus:—The body is bent forward so completely that its upper part is almost on a level with the os. It was removed from a woman who had died of other disease, and was not known to have had any uterine symptoms. She had not borne children. At the seat of flexure the tissues are considerably thinned. The uterus is small."

The vagina and ovaries have been removed.

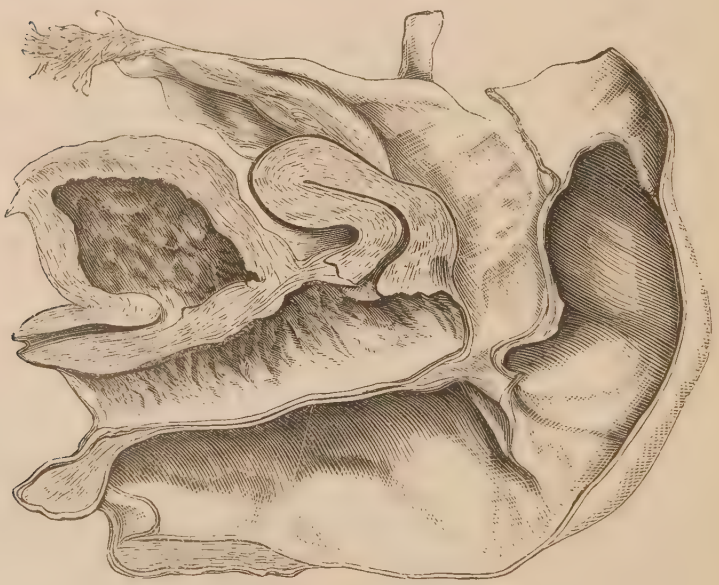
A careful inspection of this specimen will, I think, suggest a doubt whether it be one of acquired flexion. It seems to have many of the characters of the uterus, such as I have described in my remarks. The organ is small. The cervix has the appearance of being much hooked in an anterior direction, which gives the sharp curvature, and this is no doubt very great. Although in the description of the specimen it is said, "at the seat of flexure the tissues are considerably thinned," yet there is no evidence of this; an antero-posterior section of the uterus can alone determine this point. It will be observed that the uterus is suspended by a thread passed through its fundus from side to side. When thus suspended, if there existed that thinning of texture as in the acquired flexion, would not this condition of weakness and softness at the point of flexion allow the cervix to become straightened out by its own gravitation? But the cervix seems to be solidly and rigidly fixed at an angle to the body of the uterus. There does not appear to be that loose connection between the

cervix and body which is characteristic of acquired flexion, where the one can be freely moved independently of the other.

It presents a great contrast to the diagrammatic representations of the acquired flexion as figured in the works of different authors.

It is to be observed in this specimen that there are no adhesions fixing the body and cervix in this abnormal position, so that the flexion, be it of one kind or the other, is caused alone by an intrinsic condition of the uterine tissue.

Concerning the next beautiful specimen there can be no doubt. It is from the Museum of the College of Surgeons, exhibited here by the kindness of Mr. Alban Doran. The accompanying figure, drawn by Dr. Westmacott, correctly represents it.



No history of it is known. It seems to be the uterus and vagina of a nullipara. It would be difficult to pro-

duce a finer specimen of the congenitally antecurved uterus which is the subject of this paper. The uterus is small. Taking the two points from its fundus to the end of the cervix it is a simple curvature. There is no sharp angularity in its curvature. There is no thinning nor softness at any one point. The anterior and posterior walls both of the body of the uterus and its cervix are of one uniform, unbroken thickness. There is no stricture of the cervical canal at any one point, but the canal is somewhat small in calibre and curved. The vaginal portion of the cervix is very small, so that there is but little of the cervix projecting into the vagina, and consequently there is scarcely any anterior or posterior vaginal pouch. The vagina (seemingly that of a virgin) is narrow, especially above, where it embraces only the extremity of the cervix. The mucous membrane of the bladder is much corrugated and sacculated; its walls are greatly thickened, and throughout its whole length the urethra presents the same thickened appearance. There is a remarkable hypertrophy both of the walls of the bladder and urethra, and they are seen in continuity to present a sameness of structure. There are no evidences of inflammation having influenced the shape or position of the uterus. The condition of the mucous membrane of the bladder and the hypertrophy of its coats and those of the urethra give the impression that the bladder had suffered from cystitis. The ovary is of normal size, but the perinæal body is small; the perinæum itself is narrow.

It can only be regarded as a beautiful specimen, typically representing an antecurved uterus of congenital origin.

Since this paper was read, Mr. James E. Adams, Curator of the Museum of the London Hospital, has kindly, at my request, made a vertically antero-posterior section of the uterus, from the London Hospital Museum. It can now be seen that there is no thinning of its walls—no one point of angularity to cause a stricture. The canal is

small or narrow from end to end. There is no sudden bending, but a general curvature throughout. The hooking forwards and upwards of the cervix has a large share in the bent condition of the organ. It is doubtless one of congenital origin. A cast of this uterus, taken before a section of it was made, is in the Museum of the Obstetrical Society.

Dr. Gervis while expressing his high estimate of the interest and value of Dr. Roper's paper, suggested that the terms anteversion and anteflexion, the one signifying a forward inclination of the uterus as a whole, its own axis remaining unaltered, and the other a forward bending of the uterus upon itself at every variety of angle, were sufficient to cover the whole ground without the addition of the term "antecurvature." The concurrence of the small and congenitally anteflexed uterus, with certain characteristics of the male type, was of similar interest; indeed, Casper referred to the arrangement of pubic hair spoken of by Dr. Roper as occurring in these cases as one of the most characteristic features of the male. On the question of division of the cervix in some intractable cases of anteflexion, especially where associated with conical cervix and pinhole os, Dr. Gervis differed somewhat from Dr. Roper's conclusion, he had found it of much service, and since adopting the plan of applying the solution of the perchloride of iron to the cut surfaces, immediately after completing the lateral incisions, he had rarely, if ever, had any subsequent pelvic inflammation. The iron checked hæmorrhage, prevented any primary union, and greatly lessened, at all events, the risk of septic infection.

Dr. Graily Hewitt thought that Dr. Roper was attempting to draw too hard and fast a line between congenital and acquired anteflexion; he had failed to discover this difference. He attached no importance to the passage of the uterine sound being more difficult in one case than in another. The condition of the tissues of the uterus had much to do with the flexion, being of great softness, not only at the joint of flexion, but throughout. With reference to treatment, he had failed to discover the curative power of bilateral incision. He preferred tents and dilators, together with the use of pressure outside by means of vaginal pessaries.

Dr. Braxton Hicks called attention to a peculiar type of flexions of a temporary character, which might be called amœboid, in which one doctor recognises an anteflexion, and another a retroflexion, produced probably by contractility of tissue perhaps the result of irritation in the ovary.

Dr. Barnes believed that pigmentation had not been sufficiently studied, for its bearings in diseases of women are of great importance. He considered a small os uteri frequently a complication of flexion, and in such cases lateral incision was of service, and would not interfere with the treatment of the flexion subsequently by straightening the uterus.

Dr. Aveling thought the novelty and interest of the paper lay in the attempt which the author had made to associate congenital flexions of the uterus with other abnormal secondary sexual characteristics. If this association really existed one would have expected to have found concomitant abnormal conditions of the ovaries. Such, however, were not discovered. This seemed paradoxical, and he ventured to draw Dr. Roper's attention to it, and hoped he would bear it in mind when making further investigations. Dr. Aveling could not allow to pass unchallenged the condemnation of incision of the internal os uteri. He practised the operation, and was confident that it was in properly selected cases a safe and successful proceeding.

On the motion of Dr. Bantock, seconded by Dr. Wynn Williams, the debate on Dr. Roper's paper was adjourned to the next meeting of the Society.

DECEMBER 4TH, 1878.

CHARLES WEST, M.D., F.R.C.P., President, in the Chair.

Present—69 Fellows and 10 visitors.

Books were presented by Dr. Robert Battey, Dr. Hermann Beigel, Dr. Nathan Bozeman, Mr. Lennox Browne, Prof. F. Howitz, Dr. Carl Schröder, Dr. Adolphe Wasseige, and the Royal Medical and Chirurgical Society.

The following gentlemen were admitted Fellows of the Society:—George Brown, M.R.C.S., Edmund O. Day, M.R.C.S., and James Thomas Hinton, M.R.C.S. (Croydon); and John Chamberlin Eaton, M.R.C.S. (Ancaster), Louis Henry, M.D. (Melbourne, Victoria), and George Mowat, M.R.C.S. (Swansea), were declared admitted.

The following gentlemen were elected Fellows of the Society:—Wm. J. Vereker Bindon, M.D., Benjamin Browning, M.R.C.S., Arthur Flint, M.R.C.S. (Westgate-on-Sea), Rustomjee Naserwanjee Khory, M.D. (Bombay), Walter Culver James, M.D., James C. P. Muir, L.R.C.P. Ed., Frederick Nicholls, M.R.C.S. (South Croydon), and Albert C. Butler Smyth, M.R.C.S. (Brighton).

And the following were proposed for election:—James T. Crowder, M.D. (Gedney Hill), George Elder, M.D. (Nottingham), Wm. M. MacGrath, L.K.Q.C.P. (Ireland), Rt. H. A. Schofield, Lionel Alex. Weatherly, M.D. (Portishead, Somerset), and J. F. Wilkin, M.D. (Beckenham).

Dr. EDIS exhibited the placenta from a case of twins, which were prematurely expelled about the fifth month. It

was small, flaccid, much firmer than usual, very thin, and had several curious cup-like cavities distributed over the surface, containing firm blood clots about the size of hazel nuts, the so-called placental apoplexy.

On section the clot could be readily turned out; the walls of the cavity were smooth and glistening, as if they were the interior of blood-vessels. The twins were of opposite sexes, perfectly developed as regards the time of their expulsion. There were two distinct amniotic sacs. No excess of liquor amnii.

A history of the husband having had syphilis before marriage was ascertained, though no evidence of the wife having been constitutionally affected could be discovered. She had been married nine years; had had three previous miscarriages, generally about the third month, though once she advanced as far as the seventh month. She had been out in India, where she had a slight attack of dysentery, and stated also that she was subject to ague and neuralgia.

There was no history of any undue exertion, shock, fall, or injury of any kind to account for the premature expulsion. The symptoms during the week preceding delivery led the patient to believe that the ovum was blighted; no movements were felt in the abdomen; the breasts became smaller; sickness, which had been a prominent symptom, became arrested. Severe rigors occurred, and a sero-sanguinolent kind of discharge took place per vaginam.

Dr. Edis exhibited another placenta, which originally was very large, but had shrunk considerably from being kept. It occurred also in a case of twins prematurely expelled about the sixth month, where there was an enormous amount of liquor amnii, as far as could be judged about two gallons.

The patient, æt. 24, had three children, the first two strong and healthy, the youngest, aged thirteen months, somewhat delicate. She first noticed the abdomen becoming rapidly enlarged about four weeks before delivery took place. The discomfort from the enormous distension at last became almost insupportable. Uterine action com-

menced spontaneously, and she was safely delivered of twins at about the sixth month of utero-gestation.

There were two distinct amniotic sacs, the first containing at least double the quantity of the second. The fœtuses were both male, and were apparently healthy. They were living at the time of birth, but soon expired. No history of syphilis was detected.

Dr. John Williams observed that the placenta shown presented curious appearances. There were several large clots in its substance which appeared to be lodged in sacs having a distinct membranous wall. The blood-vessels presented also here and there small dilatations about the size of large currants. These spaces were empty, and vessels opened into them. The condition appeared to be similar to that found in the early stages of fleshy moles, and was probably due to a previous effort at abortion which had failed. Fleshy moles were due to hæmorrhage into the decidual structures brought about by an effort at abortion; at least, in such cases there was usually, if not always, a history of threatened miscarriage at some period before the mole was expelled. It was difficult in many cases to find out the cause of the threatened miscarriage, it may result from the disease of the ovum, or from the disease of the uterus or some other cause. In the present case it appeared impossible to decide whether the hæmorrhage into the placenta or the death of the fœtuses occurred first. He would ask Dr. Edis if there had been at some time in the course of the pregnancy an attempt at abortion.

Dr. Galabin showed microscopic sections of a medullary sarcoma of the cervix, a rare form of growth in that situation. The growth had all the clinical characters of cancer in the early stage, and bled readily on touching; but the uterus was quite movable, and there was scarcely any ulceration. On removal, a milky juice could be scraped from the cut surface, containing small cells in profusion. The sections showed that the squamous epithelium was displaced for about half an inch beyond its normal boundary line by the spread of cylindrical epithelium, accompanied by glandular proliferation, and thrown into convolutions resembling the early stage of papillæ. Over this epithelium, mostly remaining intact, was a thin layer of

débris mixed with blood, such as is usually seen in the microscopic section of a cancerous cervix. The tissue beneath the advancing edge of the disease was healthy, except that it contained a few dilated glandular cavities, some as much as one sixth inch in diameter. At other points the glands were proliferating irregularly, so as to resemble the glandular cancer, or cylindrical epithelioma, sometimes found in the rectum or similar surfaces, and by metastasis in other organs. The main part of the cervix, however, was infiltrated by a growth resembling the tissue between the proliferating glands, and having the character of medullary sarcoma, consisting of very small round cells in the meshes of a distinct interlacing stroma. From the spread of the growth along the surface, it would seem to have arisen from surface irritation, and the condition there resembled that lately described by Ruge and Veit as the commencing stage of carcinoma. But the gland proliferation seemed to have stopped short without going on to carcinoma, while the connective tissue between the glands had taken on a malignant proliferation, and infected the subjacent tissue of the cervix.

Dr. Godson showed a placenta to which the umbilical vessels were peculiarly distributed, separating, and running along the membranes a long distance from the placenta, a condition known as *insertio velementosa*. There were also two separate placentæ, very small, *placentæ succenturiæ*. The specimen had no clinical interest.

Adjourned Discussion on Dr. Roper's paper on "A Certain Class of Cases of Anteflexion of the Uterus with Correlated Conditions."

Dr. Bantock said—In resuming this discussion, I shall ask your indulgence for a short time while I endeavour, as briefly and concisely as possible, to lay before you my views on this important question. It is unnecessary for

me to occupy any portion of your time in renewing the compliments, which, so well deserved, were so well bestowed upon the author of the suggestive paper which has furnished the materials for this discussion. Nor shall I detain you by any general remarks, prefatory to the special observations I may have to make, as for instance, on the interesting nature of the subject; or the importance of a due appreciation, first, of the frequency with which the condition of anteflexion is met with—for there are exaggerations on both sides; and, secondly, of the direct relation between the condition of the symptoms which accompany it; on the importance of careful study of the various means of cure; on the importance of the subject in view of the question of marriage; and lastly, on the interest which it has for myself in particular.

The first observation I have to make, refers to the subject of nomenclature. I agree with those, who, at the last meeting, deprecated the introduction of new names without sufficient warrant, for I fail to see what information is conveyed by the term *antecurvature*, which is not already signified by that of *anteflexion*. If Dr. Roper could help us to distinguish between the various degrees of flexion by hard and fast lines, could enable us to say whether a case be of the first, second, or third, or any other degree, with mathematical precision, and could make the matter plain to a novice, he might be conferring a benefit, and would at least justify the introduction of a new name.

The author divides cases of anteflexion into two classes, viz., the congenital and acquired, and he has given us his views as to the points of distinction. Agreeing with him only to a very limited extent, I do not share his views as to the characters which serve to establish the differential diagnosis, and I shall give my reasons for this divergence.

It is a statement of which, I imagine, few will contest the accuracy, that in a very large majority of cases which come under our notice, anteflexion is met with in the virgin or nullipara, and that it is comparatively rare in

the woman who has had but one child. Let me be distinctly understood here as not confounding *anteversion* with *anteflexion*. Again, of all the causes of dysmenorrhœa, the condition of anteflexion is by far the most frequent, and as dysmenorrhœa is so often, in the married woman, associated with sterility, we arrive at the same result as to the frequent occurrence of anteflexion unconnected with the puerperal condition.

Let me take in illustration a very common class of case, viz., a married but sterile woman. What does the history of such a case tell us? and remember, that this is no fancied sketch. It tells us that at the beginning of menstrual life she simply complained of an aching pain (if indeed she had any); that as time advanced, the pain went on increasing, not as on a graduated scale, but, as it were, by fits and starts, irregularly, or it may be insensibly; so that at the end of any one or two years she is able to say that she was worse than at the beginning of this period of time. It tells us that after marriage the pain increased more rapidly, and that marital relations were more frequently attended with pain as time progressed. It tells us that at first the flexion simply retarded the menstrual flow, producing this aching pain; that the frequent recurrence of this retardation caused a stasis of blood in the vessels, in other words a state of congestion; that this congestion chiefly affecting the mucous membrane was equivalent to a turgescence of it, and, perhaps, true thickening, which diminished the calibre of the canal, especially at its narrowest part, viz. the internal os, producing a true constriction or obstruction from within. It tells us that as this congestion became more and more confirmed, the flow was more and more impeded, and the pain increased *pari passû*. It tells us that at first the flow was liquid and of the normal colour, but that as the dysmenorrhœa became severe, it became darker and more turbid, until at last it came to resemble broken-down blood-clot rather than menstrual fluid, in some cases even becoming offensive from long retention. And it tells us that at first

the cavity was of the normal size, but, sooner or later, became larger than natural. It is not impossible also, that owing to the expulsive efforts of the uterus, called forth by the necessities or circumstances of the case, there is an increase in the muscular and connective tissue elements of the uterine body. That these efforts do occur, we know from the miniature labour pain which these patients so often experience. This, and much more, without reference to the reflex symptoms which are so characteristic, is what the history of a typical case tells us. And if there should remain any doubt as to the site of the obstruction, the use of the uterine sound at once reveals to us the fact that it is at the internal os. What is this then, but the history of what may be called a congenital condition? In my experience, anteflexion in the virgin or nullipara may be said to be congenital, while that of the fertile woman may be said to be acquired; and this is the only sense in which I can support the author's classification. But I am unable to follow him in the description of the characteristics of each variety, and so far I do not see the utility of the classification.

I am glad to find myself now in accord with the author, for I think he has effectually disposed of the theory, which, without a shadow of evidence, has so long obtained credence, viz., that there is a thinning of the uterine substance at the point of flexion, and in the concave aspect. Dr. Beigel has told us here how inconsistent with fact the theory is, as proved by a large number of post-mortem examinations, and how difficult he found it to straighten an anteflexed uterus. And if any further evidence were required, we had it in the very beautiful specimen from the Museum of the Royal College of Surgeons, which was exhibited at the last meeting, and is now on the table. In this specimen we see that the tissues at the point in question are thicker than in the convex aspect, and that this may be explained by the crowding together of the tissues. Dr. Graily Hewitt took occasion to reiterate his well-known views as to the existence of a state of abnormal softness of

the tissues of the uterus, producing anteflexion, but I need not point out how little support this theory obtains from actual observation. I, at least, have never seen any evidence of it, and *à priori* reasoning would lead us in the opposite direction; would lead us, in fact, to expect that dysmenorrhœa would be a much less frequent symptom of anteflexion than it is, in virtue of the greater distensibility of the tissues, and the less resistance that would be offered to the escape of the menstrual fluid.

As to the external characteristics, to which Dr. Roper has called attention, I must say the idea is new to me. But, if a masculine pelvis be synonymous with one of the forms of difficult labour, and one of the indications of this be an unusual hirsute development, then I must say my observations and experience do not support his views. Nor have I found the latter peculiarity at all frequently associated with anteflexion and dysmenorrhœa. I am not, however, prepared to characterise the idea as fantastical, but shall regard it as a point for special observation in the future.

I now come to the question of treatment, which after all is the most important, and has for me, as a practical man, the greatest interest. While one advocates the treatment by dilatation by means of graduated bougies, another has recourse to one of the forms of tent, and still another employs the intra-uterine stem, in many of its varieties, or it may be, in his own pet form. Another advocates forcible disruption of the cervix, yet, another seeks to overcome the difficulty, by what is called division of the cervix; and still another, believes he can cure these cases by introducing a pessary into the vagina.

Now it is a fact well known to gynæcologists that the presence of a foreign body in the cervical canal causes dilatation of that canal to an extent much beyond the size of the body that occupies it. This is not simply a mechanical but a vital action. Hence the value of the intra-uterine stem. Were it not so the dysmenorrhœa would be aggravated rather than relieved by the treatment,

especially when the stem is of the solid variety. Hence also the value of the bougie in some cases; but they are comparatively few, except they be taken at a very early stage. Even the prolonged use of an intra-uterine stem is sometimes followed by a return of the dysmenorrhœa, especially when there has been decided contraction of the internal os.

Some there are who deny the existence of an internal os, and *à fortiori* will deny the existence of constriction of it. Now, if any one will take the opportunity and trouble to examine a woman in the ninth month of pregnacy he cannot but be convinced of the fact that there does exist an internal os, for he will find a well-marked rim or edge separating the cavity proper from the cervical portion of the uterus. Dr. Matthews Duncan has made this matter plain, for he has clearly shown that the cavity never encroaches on the cervical canal at any period of pregnancy; that the body and cervix have different functions to perform, and are composed of different structures. And it is a theory long propounded by Dr. Savage, that, in virtue of this difference of structure, there is an antagonism between the body and cervix. I hope Dr. Savage will take the opportunity of stating his views on this subject, with an authority and clearness to which I can make no pretension.

But not only is it a matter of proof to demonstration that there does exist an internal os, but it is also capable of demonstration that there is such a thing as constriction of it. I have placed the evidence of this in your hands, in the form of a number of sea-tangle tents, of which I only need now say that they are pretty nearly in the same condition as they were in, when they were removed from the uterus after twenty-four hours—the period for which I usually leave them.

Dr. Roper gives his undivided support to the treatment by means of graduated bougies. In this I think he is too exclusive. In the abstract we have just heard read he puts it very mildly, but if I remember aright he reserved

special denunciation for the operation of division of the cervix, as an operation at once dangerous and unwarrantable. In this I am decidedly opposed to him, and I fear I shall be refused admission into the class of sagacious observers who have discontinued it; for I believe it is an operation which may be performed with as much impunity as any operation I know. The question may be asked me, what do you mean by division of the cervix? Well, I mean division bilaterally, that is to say, partial division of the whole length of the cervix, and on both sides. But there is another operation, viz. division of the posterior lip as far as the internal os, as formerly—I know not whether still—practised by Marion Sims and others. Urged though it be with all the forcible yet simple language of that distinguished master of his art, yet it fails to carry conviction to my mind that an operation which results in a lop-sided condition, is preferable to one which aims at maintaining the symmetry of the organ. Let me state that I regard it as a mistake ever to cut through the whole thickening of the cervix, *even* at the external os.

There is still another operation, viz. division of the tissues at the point of flexion, on the anterior or concave aspect and in a longitudinal direction. The theory on which this operation is based, is that the flexion is due to contraction of the longitudinal fibres. Assuming the existence of longitudinal fibres and this effect, yet I fail to see how an incision in a direction parallel to those fibres can, by any possibility, effect the object in view. But there are no muscular fibres in the uterus, strictly speaking. The muscular elements of the uterus are in the form of spindle-shaped cells, and although they may be collected into bundles, yet these bundles bear no resemblance to the fibres of the voluntary muscles. Hence any operation founded on analogy is founded on an error.

The treatment after the operation of division of the cervix is an important matter, and much hangs on it. Time was when I followed the lead, and introduced a strip

of lint saturated with solution of perchloride of iron, partly for the purpose of keeping the canal open and the raw surfaces apart, and partly for the purpose of arresting bleeding. The latter, however, is a contingency against which provision scarcely needs being made, that is to say, bleeding should not occur to any alarming or injurious extent, if the operation be properly performed. In fact, I look upon the amount of blood that should be lost on such an occasion, as beneficial rather than otherwise. I well remember the horrible stench that assailed my nostrils, when, after forty-eight hours, it became my duty to remove this plug. I now employ glycerine for this purpose with the happiest results. This substance is well known to be a powerful preservative or disinfectant. It has, moreover, the property, long ago pointed out by Marion Sims, of producing, in virtue of its affinity for water, a copious watery discharge which acts as a depleting agent. Its disinfectant properties may be still further heightened by the addition of a little iodine, and this substance is especially useful in the plug which covers the os and cervix. If my friend Dr. Gervis will accept my suggestion in this particular I am sure he will not have cause to regret it.

But division of the cervix will not straighten an anteflexed uterus. Hence it is necessary to use an intra-uterine stem afterwards; but care should be taken not to do so until the healing process has been completed.

I need not now enlarge on the value of the intra-uterine stem. My views are, I believe, well known. Dr. Wynn Williams is a very strong advocate of this instrument and will, no doubt, tell you all that need be said on the subject.

I have had good results from several of these methods of which I have spoken. I have known dysmenorrhœa cured and pregnancy follow the use of the ordinary sound, used as are the graduated bougies; I have seen the same result from the use of sponge and tangle tent, the intra-uterine stem which goes by my own name, Meadows's

compound stem, and bilateral division of the cervix. I have had no experience of the method of forcible disruption, nor am I likely to, believing as I do, that a clean cut is safer than a lacerated wound. I have repeatedly tried the vaginal pessary, and as yet I know not of a single case in which a cure has been effected. In a paper which I published some months ago, 'On the Use and Abuse of Pessaries,' I have shown how an anteflexion may be converted into an anteversion, and the dysmenorrhœa thereby, perhaps, relieved. I have also shewn that it is a physical impossibility to support the fundus of the uterus through the vagina, by the means usually employed in a case of anteflexion. In my hands the result of this method of treatment has been anything but a success, and so far, again, I am glad to find myself at one with the author.

To sum up, I would say, at an early period use the sound, tent, or bougie, at a later stage the intra-uterine stem, but when the dysmenorrhœa is very severe and the flexion very acute, and there is evidence from the physical signs that there is constriction of the internal os, then have recourse to the operation of division of the cervix followed by the intra-uterine stem, with the precaution already stated.

One word of warning against using those instruments—ingenious shall I call them? or, perhaps, a less complimentary term would be more applicable—which have been constructed for the purpose of supplementing the want of manipulative dexterity—I mean the two-bladed, or double-cutting instruments. You will find the case ably stated against them by Dr. Marion Sims, in his 'Clinical Notes on Uterine Surgery,' in arguments at once theoretical and practical, and time warns me that I must not enter into detail. For my part, I have always employed Simpson's hysterotome, I have never had an accident, and I desire no better instrument.

It will already have been gathered from the observations I have made that he who trusts exclusively to one method of treatment, will not meet with the success he might

otherwise obtain. It is a characteristic of the skilful practitioner, that he adapts his treatment to the circumstances of the case, and a too rigid adherence to one method, which is only another name for routine, indicates a want of discrimination which will be fatal to the completeness of that measure of success which is attainable.

It is absurd to suppose that every case is to be cured absolutely. There is no specific in surgery as there is none in medicine. It is equally absurd to suppose that one method is applicable to every case.

There are many other points on which I might have addressed you, but I have already occupied too much of your time, and it only remains for me to thank you, sir, and the Society, for the patience and attention with which you have listened to me.

Dr. Wynn Williams stated that it was not his intention to occupy the time of the Society by following his friend Dr. Bantock through the learned disquisition which the Fellows had just listened to, with very much of which he perfectly agreed. He could not, however, quite agree with his remarks as to an "inner os" for a very good reason, that he after several fruitless endeavours had failed to discover one. In point of fact, the diameter of the uterine canal is pretty much of the same calibre all through, at any rate, in its central portions. The muscular structures of the body and neck are distinct one from the other, and the point of juncture is properly designated by Dr. Savage an "isthmus." A curvature or stricture may take place at this part of the uterine canal as well as at any other. As to the advisability of dividing any portion of the canal by either a single or double bladed hysterotome he quite agreed with Dr. Roper (whom he desired to thank for his very interesting communication). He, Dr. Williams, could not too strongly deprecate the use of these instruments, being quite convinced that these cases could be treated as successfully without them, and it is an undoubted fact that many

deaths have resulted from their use. I do not here object to the division of the os or cervix uteri in the pin-holed or sugar-loafed os and neck as practised by Dr. Barnes.

Anteflexions of the uterus he considered the source of more suffering, both bodily and mental, than perhaps any other malady, causing painful dysmenorrhœa, often accompanied with epileptic convulsions. He believed it to be also the chief source of sterility and painful coition. The treatment of such cases by bougies has been in his hands both tedious and unsatisfactory. He now invariably treated them after some precaution by the insertion of a vulcanite stem supported on an india-rubber shield. Dr. Williams here exhibited the stem and shield, stating that the shield was very different from one he had exhibited on a former occasion. It consists of a piece of thin india rubber stretched across a small modified "Hodge" with several good sized perforations to allow of the escape of the secretions; in the lower and narrower end of the shield is a cup-like cavity with a hole in the centre, into which the button of the stem fits, allowing free motion in every direction. It will be perceived in this instrument that the smooth or even surface of the rubber is presented to the uterus, this he had found necessary for the purpose of cleanliness. He then described the methods used for the introduction of these stems and shields. He first ascertained by digital examination the amount of curve, then bent a thin flexible metallic sound to the required curve, passed this through a speculum into the neck of the uterus with the point downwards, then reversing it, that is turning the point upwards, the sound passed readily to the fundus. The handle of the sound he now turned slowly and carefully round so as to turn the uterus into the reverse or retroflexed position. Having previously inserted a stilette into a hole at the bottom of the stem, he then withdrew the sound, passing the stem into the uterus before it had regained its anteflexed position. This, however, could not always be done, when such was the case he held the vulcanite stem over a spirit lamp, and

when sufficiently heated bent it to the required form, being then easily introduced, and after being worn for a month or two could be removed and a straight one introduced if required. The shield is introduced by placing the pointed handle of the stilette into the hole in the cup of the shield and passing it up to the button on the stem and then drawing the button into the cup, this being done the stilette is withdrawn, the speculum having been removed previous to placing the shield on the stilette; nothing further is required than the recumbent position for a few days, and occasionally the use of a morphia suppository introduced into the rectum. The patient should of course be seen occasionally by her medical attendant. The instrument should be worn four or five months. On counting up the number of cases of anteflexion of the uterus he had had under his care during the last two years at the Samaritan Hospital, he found they amounted to between sixty and seventy, nearly all having been treated in the above manner without any untoward result. He then related the case of a young lady, æt. 17, who had suffered from dysmenorrhœa during the whole of her menstrual periods, and which had been subsequently greatly aggravated by falling through a window, losing the use of her lower extremities. She was confined to her bed for six months, and treated for spinal mischief. On the position of the uterus being rectified by the introduction of a stem and shield she rapidly recovered, and subsequently went out as a nurse to the Russo-Turkish war. He showed the shield worn by this patient to show the very great strain that had been applied to it by the efforts of the uterus to regain the flexed position. In answer to Dr. Savage whether he considered this a case of congenital anteflexion, he said that it was both, that is, it was first congenital, and afterwards became greatly aggravated by the fall. He took the opportunity of remarking that the curvature in many instances was often increased by the loaded state of the rectum, especially among our shopwomen, who would pass a week or nine days without any action of the

bowels; the flexed uterus resting on this mass of fæces tended to make matters worse and worse. He frequently received letters stating that women had become pregnant after the insertion of the stem and shield. He had one last autumn from Dr. Pollard, of Liverpool, written at the request of the lady, to express to him her thanks at her having been enabled to become pregnant. This lady had been married seven or eight years, and had suffered from dysmenorrhœa during the whole of her menstrual life, and had been under treatment the whole of her married life.

In answer to Dr. Daly as to whether he had not known severe convulsions occur after the introduction of his stem and shield in these cases, he said he certainly had not, but conceived that such might happen as they sometimes follow the introduction of the sound or even a catheter in the male. He had known several cases of epileptic convulsions due to dysmenorrhœa cured by their use. He could mention one very interesting case, but he would leave it to his friend, Dr. Lang, who was present, and who had sent the case to him and knew the previous history better than he did.

Dr. Lang testified to the success obtained in this case, the patient having previously been under his care.

Dr. Daly mentioned a case of severe convulsions resulting from one of these pessaries, introduced by Dr. Wynn Williams.

Dr. Savage said Dr. Roper was the first to draw the attention of the Society to a point of the greatest practical importance, congenital uterine deviations were utterly rebellious against treatment in any form. Dr. Williams and Dr. Bantock had shown that certain acquired uterine deviations could be cured; it was the duty therefore of the practitioner to assure himself beforehand that he had not to deal with a congenital deviation. Dr. Roper had mentioned only one of these, but there were many others,

viz. congenital retroflexion often adherent to the rectum; lateral deviations to either side—the womb imperfectly developed and so *fixed* between the folds of the broad ligament; disproportion between the ovaries and uterus; one sided uterus, ovaries and tube on one side, on the other absent, &c.

Women so deformed ought not to marry, but they did, were barren, and in the belief they were unlike other women haunted the consulting room. An efficient rectal exploration would often clear away doubt. The outward indications dwelt on by Dr. Roper were seldom met with.

As to stems and such like appliances, he believed if the room were canvassed it would transpire that there was scarcely a single Fellow in it who had not in *esse* or in *posse* a special machine of that sort. Yet not two alike, and this in regard to a structure less than two inches long and the calibre of a small quill.

Dr. Williams maintained that out of seventy cases he had treated on his stem system he had not met with one accident. Dr. Williams was lucky. Years ago he, Dr. Savage, had reported to the Society nine deaths, wholly due to such appliances, viz. seven through the hysterotome, and two through stems. In America the stem had given place to "rapid dilatation," or if the stem had been used the case was closely watched.

The offhand surgical treatment of uterine cases in the consulting room was a grievous error, and the same treatment essayed on congenital cases was an error still more blameable.

Dr. Roper's valuable paper perhaps once again warranted a revival of discussion on stems. Dr. Savage now hoped this might be the last; he could account for the frequently recurring debates on the subject only in this way. When the proceedings threatened more dulness than common the secretaries instigated some Fellow to throw a little cold water on the machine of some other Fellow (people cling lovingly to their inventions), and thus they insure a rather lively altercation.

Dr. Routh said he differed from Dr. Savage in believing that the subject of uterine displacement had nothing very satisfactory about it, and should be done with for a time at least. It was because the principles of treatment of such cases were so little understood, and their management so varied and difficult that discussion was imperatively called for, and he hoped that some logical conclusion would be arrived at to-night. Now, as to the cases which Dr. Roper had divided into congenital and acquired: there really was nothing new in this division. If there was no uterine congestion they escaped notice. It was indubitably shown by Bouillaud and Verneuil, that in unmarried women as a rule the uterus was *anteverted*. In many—Aran had shown 17 out of 34—the uterus was *anteflexed*, while Bernutz and Goupil found that among 115 multiparæ, in 41, *i. e.* 34·3 per cent., it was anteflexed.

Then it was also indubitable that the grand cause of sterility among women (where the men were capable of procreation, which was not always the case) was *anteflexion*. To cure this therefore was to cure sterility.

Still no man would presume to treat anteflexion when no urgent symptoms existed. If, however, inflammatory symptoms occurred—if a son and heir were longed for—it was proper to treat these cases.

A good deal had been said about the danger of intra-uterine stems. It might be true to say so if the antiquated stiff long instruments were used; but if the new shorter, ball-and-socket stems were used, and used cautiously, no greater error could be asserted.

As to those measures of caution, they had all been referred to in his paper on intra-uterine stems read before the Society. Of Dr. Williams's modified form he could speak only in the highest terms as effecting permanent cures in many cases, and leading to the happy result of a family. He thought, however, there had been a case reported in which cellulitis had followed. But the use of a sound had had similar results, and unhappy exceptional cases would occur under any treatment.

He would not describe the instruments he now placed on the table to rectify cases of anteversion, having done so at length in a paper read before the Medical Association at Bath, but placed them on the table for inspection. They combined the Hodge and intra-uterine stems. The stem had a ball-and-socket movement on the centre of the Hodge, and was only two inches long. In one of the three forms was a screw, which enabled you to move the stem more forwards or backwards. In another the stem being freely hollowed, could be put in first; and the Hodge with a smaller stem, fitting in the above hollow, could be introduced afterwards.

It was only by such an instrument as Dr. Williams's that those cases where the uterus turned every way, and to which Dr. Hicks had called attention on the last evening, could be rectified. These cases he had fully described in his Bath paper before referred to.

On one point, however, he wished to remark, and pointedly ask Dr. Roper for a reply. Supposing he used the bougies, how often was it necessary to use them per week. If he judged from analogous employment of bougies in stricture of the male urethra, it would prove pretty often. This might be profitable in the way of fees, but was it right to subject a lady to the continual annoyances of examinations, when the simple application of one of his or Dr. Williams's stems, after due preparation, enabled a lady to avoid these examinations, except on very rare occasions?

Of one thing he was certain. Several women, after having worn one of his stems, had assured him they never felt so comfortable before. Some had even gone the journey to Ceylon with much comfort, and would then have them removed after three or four months, and he hoped would return to cheer him (Dr. Routh) by the sight of a fat and rosy babe.

On one other point he felt bound to make a remark. Dr. Gervis had said that the operation of dividing the cervix was altogether free from danger. He was sorry this was not his experience. He had lost two cases,

although under peculiar circumstances. A colleague had lost another, and he had heard of several cases out of doors, and yet cases where skill existed, and every caution against accident employed. He would consider these, however, exceptional cases.

Dr. Gervis asked permission, in reference to Dr. Routh's remarks, to say that when speaking of division of the cervix at the last meeting he was speaking simply of cases of anteflexion associated with a conical cervix and small os, and the operation he referred to was not one involving the inner os.

Dr. Playfair said, should it happen that there are in this room any members of the profession, as there may well be, who are still doubtful of the value of gynæcology, I am afraid the discussion on this important question which they have heard to-night will hardly send them away convinced of their error; indeed, it must, I think, be admitted that such difference of opinion on points of such practical consequence are hardly creditable to us. What are we to think of gynæcology as a scientific pursuit when one eminent authority informs us, as the result of much study and long experience, that all uterine symptoms whatsoever are the results of flexions, while another, equally eminent in his way, has recently assured the profession that while he has no experience in the use of pessaries, he has a very large experience in their abuse, since the greater part of his time is taken up in removing pessaries that have been introduced by others. Now, sir, I am one of those who have always maintained that there is much truth in the views of both parties in this great question as to the importance of uterine flexions. I believe that it is as great a mistake to decry mechanical treatment as it is to rely too exclusively upon it. I am as satisfied as I can be of any fact in medicine that there are a large number of cases both of retro- and anteflexion which are quite unmanageable except by mechanical support, and which are readily and permanently relieved

by the judicious use of pessaries. But there are several other classes of flexion cases, which curiously enough not one of the speakers had alluded to, and which we most certainly ought not to overlook. One of them is the very common case in which there is some other morbid condition associated with the flexion, such as endo-metritis or areolar hyperplasia. Hence, although mechanical support may give temporary relief, it cannot effect a permanent cure, and it is a fatal mistake to rely on it alone, to the exclusion of treatment applied to the associated conditions. Again, there are some cases in which the uterus is totally unable to bear mechanical treatment, either on account of its tenderness or of associated conditions, and in which it is altogether inadmissable. And there is still a third class of cases, how numerous no one can say, but certainly not very rare, in which the uterus is most abnormally twisted, without any kind of evil resulting. Only the other day I was consulted by a patient coming under this category. She was a lady of typically good health, who never had an ache or pain of any kind, who could walk twenty miles at a stretch, and who hunted regularly four days a week. The only reason for seeking advice was that she had been married several years without a family, and wished to know if there was any removable cause of sterility. I found that she had one of the most acute retroflexions I ever met with. As it is only under exceptional circumstances such as these that we have the opportunity of examining women who have no symptoms; it is quite possible that such cases may be much more common than is generally believed, and he would be a poor physician indeed who would subject such a patient to all the discomforts of Hodge, cradles, stems, and the like, simply because he found that the uterus was not in what he considered a usual position. What, therefore, I would venture to urge as strongly as possible is that the mere existence of a flexion is not of itself a sufficient indication for treatment unless it gives rise to symptoms, and that all associated conditions should

be carefully studied, and that while mechanical support should be used whenever required, it should be combined with other treatment in all suitable cases. Endo-metritis, for example, only to be cured by appropriate intra-uterine medication is, in my experience, one of the most constant complications of flexion, and I see cases almost daily which have resisted mechanical treatment alone, which yield when this is combined with other means. If the more broad view of uterine disease was taken, I cannot but think that the somewhat humiliating differences of opinion which the opponents of gynæcology are apt to sneer at would no longer exist.

Having said so much on the general question I shall not trespass at any length on the time of the Society by inflicting on them my views of the special kinds of pessaries in use, I will only say that an anteflexion pessary, as efficient and as generally useful as the Hodge is in retroflexion, is still a great desideratum. After trying many forms of anteflexion pessary, I have come to the conclusion that Hewitt's cradle pessary is the best we have, but I hope that Dr. Hewitt will not be cross with me if I say that it leaves much to be desired. It is difficult to introduce and still more difficult to remove, in many cases it cannot be borne at all, and I have more than once seen its use followed by somewhat serious mischief. Still, *faute de mieux*, I use it constantly, and in many cases with very remarkable benefit. As to stems, although I do now again use them in intractable cases, I never do so without fear and trembling, and never unless the patient is under constant supervision. Sending a patient wearing a stem pessary to a distance, such as India or Ceylon, as has been mentioned to-night, I think we cannot too strongly protest against.

Dr. Rogers said that about twenty-five years ago, a patient of his, suffering from dysmenorrhœa went to Edinburgh, and there became a patient of the late Sir James Simpson, who used "dilating bougies." At Dr. Rogers'

request Sir James Simpson had a set forwarded to London to him; for some time he gave them a trial in severe dysmenorrhœal cases, but with indifferent success, for though benefit was obtained for a time or two, it was not permanent but in one case where pregnancy occurred. Dr. Rogers then tried the hysterotome but with anxiety and caution, when he obtained very great success. In almost every case relief was permanent, and many became mothers after years of sterility. He never had used the hysterotome in the out-patient department, and always required the patient to be confined to bed, and carefully to be watched and nursed. Out of some hundreds of operations he had only lost one patient, this was a recent case and occurred from peritonitis. For the last two years he has generally used his colleague Dr. W. Williams's plan of introducing stems without cutting; but, Dr. Rogers never introduces a stem until the uterus has been at least twice leeched and all inflammatory disease removed by appropriate medicines, &c. Then the nurse has strict orders to remove the instrument should pain come on which an opiate enema does not remove, without waiting for Dr. Rogers's visit. Up to this time Dr. Rogers has had no bad result from their use, but he would not advise his patients to leave the country nor go on a long voyage while wearing one of these instruments, unless a surgeon was near her or she could be taught to remove it herself. Dr. Rogers has known several patients to retain the elastic stem over a year without any bad result, and he is certain that after using, unsuccessfully, constitutional remedies for such cases, mechanical means must be resorted to; they are then permanently cured and often become the happy mothers of large families. Dr. Rogers thinks the profession should be more forbearing and generous to one another, no matter how widely different the manner of treating these cases may be. We ought to be actuated by only one desire, the welfare and cure of our patients.

Dr. Heywood Smith said that, at that late hour, he would

not prolong the discussion, but he wished to show a uterus, a section of which he had made, as illustrating Dr. Roper's paper, wherein it would be seen that there was scarcely any difference of thickness in the anterior and posterior walls. He regretted that so many speakers had wandered from the question before the meeting, which was on congenital anteflexion, not flexions accompanied with morbid alterations of structure. Congenital anteflexion was the most frequent source of dysmenorrhœa and sterility, and with regard to treatment he considered that dilatation only might temporarily relieve, and if followed by pregnancy would prove a cure, but as a rule the cervix, on the dilatation being intermittent, resumed its constricted condition. He was in favour of incision to a slight extent combined with forcible dilatation. It was unscientific to divide an anteflexed uterus bilaterally, *i. e.* at right angles to the plane of the flexion, and the method of Marion Sims afforded the best method of making the canal straight. Marion Sims did not, as had been alleged in the course of the debate, divide the cervix all the way from the inner os, but only for about half to three quarters inch up on the posterior lip; he then divided the anterior curve from within to a certain extent. Dr. H. Smith had operated on eight or ten cases since September, and had as yet very good success from the operation.

The President said that since he had ceased to hold any hospital appointment, his opportunities for comparing the utility of different forms of pessaries or other instruments for the support of the uterus had, of course, been limited.

In any case, however, the first question was whether the symptoms of which a patient complained were due to the existence of a flexion of the uterus, or whether the uterine flexion was an accidental complication in itself producing no symptoms whatever. He agreed entirely with Dr. Playfair as to the importance of determining the nature of a flexion, for in those cases, and they were not

very rare, in which the flexion was associated with an undeveloped state of the uterus, he doubted much whether anything was gained by the mere removal of the flexion, while the apparent benefit obtained in such cases by the removal of the flexion or the employment of intra-uterine support is probably not due to the merely mechanical action of the instrument, but to a sort of stimulating influence on the uterine tissue generally, such, for instance, as gives rise to the hypertrophy of the uterine tissue when a fibroid is developed in the substance of the organ.

With reference to the symptoms produced by uterine flexions in general he was very much of the opinion of Scanzoni, whose authority he was glad to appeal to, that of itself the existence of a flexion of the uterus in any direction whatever was a matter of small moment; but that the existence of a flexion would aggravate greatly the symptoms attendant on congestion or similar conditions of the womb. In such cases the relief of the congestion would be the first indication, the rectification of the flexion the second, if indeed it should be required at all.

With reference to the case of alleged epilepsy referred to by Dr. Williams as having been cured by the reposition of a flexed uterus, the case appeared to him to be wanting in all those exact and minute details which are absolutely necessary to justify any positive conclusions.

In former days he had seen much suffering and grave inflammatory mischief produced by intra-uterine stems. The recent improvements by which they were made shorter and moveable instead of fixed might probably have lessened both risks; but he could not but consider the condition of any patient wearing an intra-uterine stem, as one calling for close and careful watching.

With reference to any operation for the incision of the os uteri or of the internal orifice of the organ, the difference between the hazard of the two was immense. The former was comparatively free from risk, the latter was attended with serious danger; and he had seen very formidable symptoms, such as pelvic cellutitis and inflam-

mation of the broad ligament, result from its performance.

In reply, Dr. Roper remarked that the discussion had far exceeded the scope of his paper. As its title expressed, it referred to one class only of flexions, viz. that of a congenital kind—malformations. The effects of inflammation, however caused, had been excluded from consideration, as being epi-phenomena. A hard-and-fast distinction, he thought, was to be made between such congenital flexions and those of an acquired kind. The former were incapable of reduction, the cervix and body of the uterus fixed to each other firmly in a curved position. There was no movement between the body and cervix, none of the ball-and-socket joint movement which exists in the acquired flexion. The acquired flexion, if free from adhesions, was easily reduced. Since the last meeting of the Society Dr. Westmacott had made a very correct drawing of the preparation from the College of Surgeons; and Mr. James E. Adams, Surgeon to the London Hospital and Curator of its Museum, had kindly, at my suggestion, made a vertical antero-posterior section of the uterus, which is depicted in Dr. Barnes's work on 'Diseases of Women,' as a specimen of anteflexed uterus. This is clearly one of the congenital kind. There is no acute angle of flexion, but a general curvature from end to end, and the tissues of the uterine and cervical walls are not at any part thinned. A cast of this uterus was taken before a section of it was made, which was exhibited.

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— Acute Exanthem: Blattern, Scharlach, Masern, Varizellen (*H. Bohn*).
— — Rötheln (*W. Emminghaus*).
— Typhen: abdominal Typhoid (*C. Gerhardt*).
— Fleckfieber (*Oscar Wyss*).
— Rückfallsfieber (*Oscar Wyss*).
— Febris intermittens (*H. Bohn*).
— Meningitis cerebrospinalis epidemica (*H. Emminghaus*).
— Keuchhusten (*E. Hagenbach*).
— Epidemische Cholera (*A. Monti*).
— Parotitis epidemica (*Otto Leichtenstern*).
— Diphtheritis (*A. Jacobi*).
— Dysenterie (*A. Jacobi*).

GERHARDT (C.) *continued*— *Presented by*

Band III.

Erste Hälfte.

Allgemein-Erkrankungen:
— Rheumatismus (*J. H. Rehn*).
— Rachitis (*J. H. Rehn*).
— Scrofulose und Tuberculose (*B. Fränkel*).
— Anämie, Chlorose und Hämorrhag. Diathesen (*R. Förster*).
— Diabetes mellitus und insipidus (*E. Külz*).
— Leukämie und Pseudoleukämie (*F. V. Birch-Hirschfeld*).
— Zoonosen: Milzbrand (*A. Nicolai*).
— — Lyssa humana (*H. Emminghaus*).
— Intoxicationen (*C. Binz*).

Zweite Hälfte.

Krankheiten der Athmungsorgane:
— Nase (*O. Kohts*).
— Kehlkopf und Luftröhre (*C. Rauchfuss*).
— Spasmus Glottidis (*Flesch*).
— Stimmbandlähmung (*C. Gerhardt*).
— Bronchien (*A. Weil*).
— Schilddrüse (*R. Demme*).
— Lunge: Atelektase (*C. Gerhardt*).
— — Emphysem und Missbildungen (*L. Fürst*).
— — Pneumonia crouposa (*L. Thomas*).
— — Katarrhalpneumonia (*O. Wyss*).
— — Phthisis pulmon. (*O. Wyss*).
— — Infarct hæmorrhag. (*C. Gerhardt*).
— — Lungengangraen (*O. Kohts*).
— — Echinococcus (*O. Kohts*).
— Pleura: Pleuritis, etc. (*O. Leichtenstern*).
— Bronchialdrüsen (*W. Widerhofen*).

GIBSON (John). Useful Hints and Friendly Admonitions to Young Surgeons on the Practice of Midwifery 12mo. Colchester, 1772 Purchased.

GLISSON (Francis). Tractatus de Rachitide sive morbo puerili, observationibus Georgii Bate et Ahasueri Regemorteri *portrait*, 18mo. Hagæ-Com. 1682 „

——— On Rickets, see *Culpeper*.

GOETZIUS (Ernest. Felix Christoph.). Diss. inaug. de salubritate Hæmorrhagiæ Uteri 4to. —— 1746 „

GOODELL (William). Address to the Medical Department of the University of Pennsylvania, delivered March, 1878 8vo. Philad. 1878 Author.

——— Case of Vaginal Ovariotomy (from 'Gynæcol. Trans.,' vol. ii) 8vo. 1878 „

——— Case of Spaying for Fibroid Tumour of Womb (from 'Amer. Journ. Med. Sc.') 8vo. 1878 „

Presented by

GORDON (Alexander). Treatise on the Epidemic Puerperal Fever of Aberdeen; with appendix 8vo. Lond. 1795 Purchased.

GOWER (Richard). Children's Diseases; see *Sylvius* (F.), translated.

GRAAF (Regnerus de). Opera Omnia
portrait and plates, 8vo. Lugd. 1678 „

De Virorum organis Generationi inservientibus—De Mulierum organis Generationi inservientibus—Defensio partium Genitalium—De Succo Pancreatico—De Clysteribus, etc.

——— ——— editio nova; huic præfixa est brevis narratio de Auctoris vita 8vo. Amst. 1705 „

GRATAROLUS (G.). Lignum Vitæ; Dialogus secundus ex Italico in Latinum versus 12mo. 1673

GREGORY (Jacobus). Diss. inaug. de morbis cœli mutatione medendis 8vo. Edin. 1776 „

GREGORY (John). Comparative view of the state and faculties of Man with those of the Animal world; seventh edition 12mo. Lond. 1777 „

GRIEVE (Georgius). Diss. inaug. de secretione Bilis 8vo. Edin. 1731 „

GROSCESIUS (J.). De Puerorum Morbis; see *Mercurialis* (H.).

GRÜNEWALDT (O. von). Kleine Gebärasyle oder grosse Gebäranstalten? (Volkmann's Sammlung, No. 123) 1877 „

GUÉRIN (Alphonse). Leçons cliniques sur les Maladies des Organes Génitaux internes de la Femme
chromolithographs and woodcuts, 8vo. Paris, 1878 „

GUIGONIUS (Isoardus). Autopsiomma; cum ejusdem oculi actionibus et utilitatibus 4to. Taurini, 1619 „

GUILLEMEAU (C.). De l'Impuissance; see *Guillemeau* (J.).

GUILLEMEAU (James). Childbirth, or the Happy Delivery of Women; wherein is set down the Government of Women in the time of their breeding Childe, of their Travaile, both naturall and contrary to nature, and of their lying-in, together with the diseases which happen to women in those times, and the means to helpe them; and a Treatise of the diseases of Infants, &c. *woodcuts*, 2 parts in 1 vol. 4to. Lond. 1635 „

Presented by

Guillemeau (Jacques). De la Grossesse et Accouchement des femmes, et de la nourriture des Enfans ; avec un traicté de l'Impuissance, et un autre de la Génération par Charles Guillemeau
plates, 12mo. Paris, 1643 Purchased.

Gusserow (A.). Neubildungen des Uterus ; see *Billroth*, Handbuch (4).

Gynæciorum, hoc est, de Mulierum tum aliis, tum gravidarum, parientium et puerperarum Morbis, libri veterum ac recentiorum per Casp. Wolphium editi 4to. Basileæ, 1566 ,,

Cleopatra, Moschion, Priscianus, Trotula, N. Rocheus, Lud. Bonaciolus, Jac. Sylvius.

Haighton (John). Syllabus of the Lectures on Midwifery delivered at Guy's Hospital [interleaved with MS. notes by the late Dr. Blundell]
8vo. Lond. 1811 ,,

——— ——— [Another edition]. Lectures of Dr. Haighton and Dr. Blundell 8vo. Lond. 1821 ,,

Halffman (Henricus J.). Diss. inaug. de Morbis Virginum 4to. Lugd. Bat. 1753 ,,

Hall (John). Diss. inaug. de Febre acuta Puerperis superveniente 8vo. Edin. 1755 ,,

Hall (Marshall). Commentaries on some of the more important of the Diseases of Females ; in three parts *plates*, 8vo. Lond. 1827 ,,

Haller (Albertus). Descriptio Fœtus Bicipitis ad pectora connati, ubi in causas Monstrorum inquiritur *plates*, 4to. Hannoveræ, 1739 ,,

——— Dissertatio II de Monstris ; trium monstrorum anatome et responsiones ad D. Lemeryum
plates, 4to. Gottingæ ,,

Hamilton (Alexander). Outlines of the theory and practice of Midwifery ; a new edition
8vo. Edin. 1787 ,,

Hamilton (Jacobus). Diss. inaug. de Perspiratione Insensibili 8vo. Edin. 1771 ,,

Hamilton (James). Hints for the treatment of the principal Diseases of Infancy and Childhood ; second edition 8vo. Edin. 1813 ,,

Hankoph (Gerhardus R.). Diss. inaug. de Mola occasione molæ osseæ in vetula octogenaria inventæ
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HARE (Jacobus). Diss. inaug. de Syncope 8vo. Edin. 1782 Purchased.

HARRER (Joannes). Diss. inaug. de Partu Serotino valde dubio 4to. Goetting. 1767 „

HARVEY (William). Anatomical Exercitations concerning the Generation of living creatures; with particular Discourses of births and of conceptions, &c. 12mo. Lond. 1653 „

——— Exercitationes de Generatione Animalium: acced. de Partu, &c. 18mo. Amst. 1651 „

——— See *Schraderus*.

HARVIE (John). Practical Directions, showing a method of preserving tke Perinæum in Birth, and delivering the Placenta without violence; illustrated by cases 8vo. Lond. 1767 „

HEGAR (Alfred). Zur Ovariotomie (Volkmann's Sammlung, No. 109) 1877 „

——— Die Castration der Frauen (Volkmann's Sammlung, Nos. 136–8) 1878 „

HEINIGKE (Gulielm. J. F.). Dissertationes de Utero Secundinas expellente; sectio prior theoretica 4to. Lipsiæ, 1765 „

HELD (Christianus F.). Diss. inaug. de Partu Laborioso et caussis quæ caput in pelvi retinent præcipuis 4to. Jenæ, 1769 „

HELVETIUS (J. C. A.). Eclaircissemens concernant la manière dont l'Air agit sur le Sang dans les Poulmons; Réponse à une lettre de Michelotti à M. de Fontenelle [et De Structura Glandulæ Epistola ad J. B. Winslow] 4to. Paris, 1728 „

——— Traité des Pertes de Sang, avec leur remède specifique; accompagné de sa lettre sur le Cancer 12mo. Paris, 1697 „

HENNEMANN (Carolus F. C.). Diss. inaug. de obliquitate Uteri, et positura Infantis obliqua et iniqua 4to. Gottingæ, 1769 „

HERBINIAUX (George). Parallèle de différens Instrumens, avec les méthodes de s'en servir pour pratiquer la ligature des Polypes dans la Matrice, en forme de lettre à Roux *plates*, 8vo. La Haye, 1771 „

HERRGOTT (Alphonse). Des Maladies Fœtales qui peuvent faire Obstacle à l'Accouchement; Thèse 8vo. Paris, 1878 „

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HEISTERBERGK (Carol. A.). Diss. inaug. sistens casum de Virgine Nymphomania laborante
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HEWITT (Graily). The Mechanical System of Uterine Pathology; being the Harveian Lectures for 1877
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HERTZ (Conradus A.). Diss. inaug. de Funiculo Umbilicali, vel intra Uterum dissecando
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HEYSHAM (Joannes). Disp. inaug. de Rabie Canina
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HIGHMORE (Nath.). History of Generation, examining the opinion of Sir Kenelm Digby, &c.; and a Discourse on the cure of wounds by sympathy
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——— Anatomia Secundinæ Vitulinæ
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HOFMANS (Adrianus). Diss. inaug. de ortu et incremento Fœtus Humani 4to. Lugd. Bat. 1758 „

HOME (Franciscus). Diss. inaug. de Febre Remittente
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HORN (Johann von). Die durch Fragen und Antworten treulich anweisende Wehemutter; sechste Auflage
8vo. Leipzig, 1771 „

HORNE (J. van) See *Swammerdam*, Miraculum Naturæ (notæ).

HUBER (Jo. Jac.). De Vaginæ Uteri structura rugosa, nec non de Hymene *plates*, 4to. Gotting. 1742 „

HUFFELMANN (Gerhardus A.). Diss. inaug. de genuino Fœtus in Utero materno situ naturali
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HUGO (Augustus L. de). Commentatio de Glandulis in genere, et speciatim de Thymo
4to. Gottingæ, 1746 „

Presented by

HULL (John). Defence of the Cæsarean Operation, with Observations on Embryulcia, and the Section of the Symphysis Pubis
plates, 8vo. Manchester, [1798] Purchased.

HUNTER (Joannes). Disp. inaug. quædam de Hominum Varietatibus, et harum causis, exponens
8vo. Edinb. 1775 ,,

HUNTER (Thomas). Diss. inaug. de Chlorosi
8vo. Edinb. 1754 ,,

HURTAUT (—). Essais de Médecine, see *Emett.*

IANCKIUS (Johannes G.). Commentatio de Forcipe ac Forfice ferramentis a Bingio chirurgo Hafniensi inventis, eorumque usu in partu difficili
plate, 4to. Lipsiæ, 1750 ,,

——— [Another copy] 4to. ib. 1750 ,,

IANICHIUS (P.). See *Varandæus* de affectibus mulierum.

IANTKE (Joannes B.). Diss. inaug. de præmaturo Aquarum Parturitionis ex utero gravido effluxu
4to. Altdorfii, 1755 ,,

Imagination—Letters on the force of Imagination in Pregnant Women 12mo. Lond. 1765 ,,

——— Lettres sur le pouvoir de l'Imagination des Femmes Enceintes 12mo. Paris, 1745 ,,

IMBERT DE LATOUCHE (P.). De l'Amputation Utéro-Ovarique comme complément de l'Opération Césarienne 8vo. Paris, 1878 ,,

Impotence—Principes sur la nullité du Mariage pour cause d'Impuissance, par. M . . . . . Avocat en Parlement; avec le Traité de M. Bouchier sur les procédures en usage en France pour la preuve de l'impuissance de l'homme 8vo. Londres, 1756 ,,

Infants—Letters to a Mother on the management of Infants and Children 8vo. Lond. 1817 ,,

Insects—Inquiry into the original production of Insects in Human Bodies, especially of the Seminal Animalcula 8vo. Lond. 1727 ,,

IOHN (Christoph. G.). Diss. prior de diagnosi Vitæ Fœtus et neogeniti 4to. Lipsiæ, 1771 ,,

Italian Love; or Eunuchism displayed, describing all the different kinds of Eunuchs: written by a Person of Honour; second edition.
12mo. Lond. 1740 ,,

JACOBI (Mary Putnam). The Question of Rest for Women during Menstruation (Boylston Prize Essay) *plates*, 8vo. New York, 1877 Author

Presented by

Jameson (Joannes). Diss. inaug. de Infantum Morbis, ab Infantia ortis 8vo. Edinb. 1731 Purchased

Jasolinus (Julius), Marcus Aurelius Severinus, Bartholomœus Cabrolius. Collegium Anatomicum 4to. Francof. 1668 ,,

Jasolinus, Quæstiones Anatomicæ, et Osteologia parva.
Severinus, Quæstiones Anatomicæ, De Aqua Pericardia, De Cordis adipe, De Poris Cholidochis, Osteologia.
Cabrolius, Observationes variæ.

Jasolinus, see *Severinus.*

Jenks (Edward W.). Report of a successful case of Cesarean Section after seven days' labor, with some comments upon the operation 8vo. New York, 1877

Jewel (George). Practical Observations on Leucorrhœa, with cases illustrative of a new mode of treatment 8vo. Lond. 1832 ,,

Johnston (Jacobus). Diss. de caussis diversæ molis quâ fluit sanguis per Pulmonem Natis et non Natis 4to. Lugd. Bat. 1693 ,,

Jones (William). Practical Observations on Diseases of Women; with cases *plates,* 8vo. Lond. 1839 ,,

Kaau (A.). See *Boerhaave* (A. Kaau).

Kerckringius (Theodorus). Spicilegium Anatomicum, necnon Osteogenia Fœtuum *plates,* 4to. Amst. 1670 ,,

——— Opera omnia Anatomica; continentia Spicilegium Anatomicum, Osteogeniam Fœtuum, necnon Anthropogeniæ Ichnographiam *plates,* 4to. Lugd. Bat. 1717 ,,

Keyselitz (Gottfried). Diss. med. chir. de Partus Agripparum difficultatibus 4to. Lipsiæ, 1767 ,,

Kier (Guhelmus). Disp. inaug. de Attractione Chemica 8vo. Edin. and Lond. 1778 ,,

Kiesling (M. G.). Uterus post partum inflammatus 4to. Lipsiæ, 1754 ,,

Kleinwächter (Ludwig). Die künstliche Unterbrechung der Schwangerschaft (from the 'Wien. Klinik'). 8vo. Wien, 1879 ,,

Klinkosch (Joseph T.). Descriptio anatomica Monstri Bicorporei Monocephali *plates,* 4to. Vetero-Pragæ, 1767 ,,

Presented by

KNECHT (Matthæus). Vitia partium Genitalium Sexus Potioris 4to. Halæ, 1755 Purchased.

KOCH (Christian Andr.). Affectum in libris et praxi rarissimum, ab Hermanno Boerhaave sanatum *plate*, 4to. Lugd. Bat. 1738 „

KŒBERLÉ (E.). Des Maladies des Ovaires et de l'Ovariotomie (from 'Nouveau Dict. de Méd. et de Chirurg. pratiques') *woodcuts*, 8vo. Paris, 1878 „

KŒNIG (Fridericus E.). De Aquis ex Utero gravidarum et parturientium profluentibus 4to. Halæ, 1769 „

KORNMANNUS (Henricus). Sibylla Tryg-Andriana, seu de virginitate, Virginum statu et jure; [acced. Linea Amoris] 18mo. Francof. 1610 „

——— ——— [another copy] acced. de Linea amoris et de Annulo, usitato, sponsalitio et signatorio 18mo. Oxon. 1669 „

KÖVESDY (Joannes C.). Diss. inaug. de Sterilitate Mulierum 4to. Jenæ, 1743 „

KRAEUSELIUS (Joannes G.). De Posthumo Anniculo, seu duodecimestri 4to. Vitebergæ, 1748 „

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KRAUSE (Carolus C.). Dissertatio: Quænam sit causa proxima mutans corpus fœtus, non matris gravidæ, hujus mente a causa quadam violentiore commota &c. 4to. Petropoli, ——

KRUMPHOLZ (Joan. Andreas). Diss. inaug. de Abortu 4to. —— 1768 „

L—— (J. N.). De Abortu et Medicamentis Abortivis 4to. Ultzæ, 1735 „

LA COURVÉE (Joannes Claudius de). De Nutritione Fœtus in utero paradoxa 4to. Dantisci, 1655 „

[LAMOTTE (William).] Indécence aux hommes d'accoucher les femmes, et de l'Obligation aux Femmes de nourrir leurs enfans 12mo. Trevoux, 1708 „

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LANGLEY (W.). See *Schraderus.*

LAMZWEERDE (Joh. Bapt. de). Historia naturalis Molarum Uteri *plates*, 12mo. Lugd. Bat. 1686 „

LATHAM (John). On Rheumatism and Gout; a Letter addressed to Sir George Baker, Bart. 8vo. Lond. 1796 „

LAUNAY (Charles Denys de). Nouveau Système sur la Génération de l'Homme et celle de l'Oiseau 12mo. Paris, 1726 „

LEAKE (John). A Lecture introductory to the theory and practice of Midwifery, including the history of that Science; third edition 4to. Lond. 177– „

——— Syllabus of Lectures on Midwifery *plate*, 4to. Lond. 1776 „

——— Vindication of the Forceps described by Dr. Leake 4to. Lond. 1774 „

——— Practical Observations [on the Diseases of Women] 2 vols. 8vo. Lond. 1792 „

Vol. 1. Chronic diseases peculiar to Women.
„ 2. Child-bed Fever and Acute Diseases most fatal to Women during pregnancy.

LEBLOND (A.). De l'Amputation du Col de l'Utérus *woodcuts*, 8vo. Paris, 1877 Author.

——— Traité élémentaire de Chirurgie Gynécologique *woodcuts*, 8vo. Paris, 1878 „

LEE (Robert). Memoir on the Ganglia and Nerves of of the Heart *plates*, 4to. Lond. 1851 Purchased.

LE GRAND (Antonius). Dissertatio de carentia sensus et cognitionis in Brutis 18mo. Lond. 1675 „

LEHMANN (Johannes A.). Diss. inaug. de Funiculi Umbilicalis humani Pathologia 4to. Lipsiæ, 1737 „

LEROUX (M.). Observations sur les Pertes de Sang des femmes en couches, et sur les moyens de les guérir 8vo. Dijon, 1776 „

LEVER (John C. W.). Practical treatise on Organic Diseases of the Uterus (Fothergillian Prize Essay) 8vo. Lond. 1843 „

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LEVRET (André). Explication de plusieurs figures sur la Méchanisme de la Grossesse et de l'Accouchement [avec Supplement à [ses] Ouvrages]
plates, 8vo. Paris, 1752 — Purchased.

——— Observations sur les causes et les accidens de plusieurs Accouchemens laborieux; seconde édition [avec Suite des "Observations," &c.]
2 vols. in one, *plates*, 8vo. Paris, 1750-1 — ,,

——— L'Art des Accouchemens; seconde édition
portrait and plates, 8vo. Paris, 1761 — ,,

LICETUS (Fortunius). De Monstris, ex recensione Gerardi Blasii; editio novissima
plates, 4to. Amstel. 1665 — ,,

——— Traité des Monstres; see *Palfyn*.

LIEBAUT (Jean). Trois Livres de la santé, fecundité, et Maladies des Femmes; pris du Latin
12mo. Paris, 1582 — ,,

——— Des Maladies et Infirmitez des Femmes; pris du Latin, reveus [par Lazare Pé] 8vo. Rouen, 1649 — ,,

In this later edition the Editor Lazare Pé states that the work is really that of Marinello, with slight alterations by Liebaut. It was published in 1609 as the work of Marinello (which see).

LILIE (Gulielmus Gottlob). Diss. inaug. de Plumbi virtutibus medicis 8vo. Edin. 1775 — ,,

LIND (Jacobus). Diss. inaug. de morbis Venereis localibus 8vo. Edinb. 1748 — ,,

——— Dis. inaug. de Febre Remittente Putrida paludum quæ grassabatur in Bengalia, 1762 8vo. ib. 1768 — ,,

LINDESAY (Joannes). Diss. inaug. de Calore
8vo. Edin. 1732 — ,,

LOGAN (Georgius). Diss. inaug. de Morbis Infantum arcendis et curandis 8vo. Edin. 1773 — ,,

LOUIS (M.). Mémoire contre la Légitimité des Naissances pretendues tardives (avec Supplement)
8vo. Paris, 1764 — ,,

LÜTGERT (Joannes C.). Diss. inaug. de notis Hæmorrhagias præsagientibus. 4to. Halæ Magd. 1755 — ,,

LYSTHENIUS (Carol. L. J.). Diss. inaug. de Molis
4to. Halæ Magd. 1749 — ,,

MCCLINTOCK (Alfred H.). Fœtal Therapeutics
8vo. Lond. 1877 — Author.

——— See *Smellie*, Treatise on Midwifery (edited)

Presented by

M'Donnell (Jacobus). Diss. de Submersis 8vo. Edin. 1784 Purchased.

Macfait (Ebenezer). Diss. inaug. de Aere, Aquis, et Locis 8vo. Edin. 1745 ,,

McFerran (J. A.). The Obstetric Forceps; an improvement in their construction 8vo. Philadelphia, 1877 Author.

Mackintosh (John). Treatise on Puerperal Fever, with numerous cases and dissections 8vo. Edin. 1822 Purchased.

Major (J. D.). De Oraculis Medicinæ, see *Sturmius*

Malfi (Tiberius). Il Barbiero (*title page wanting*) *portraits, and plates*, 4to. Napoli, 1626 ,,

Malpighius (Marcellus). Dissertatio epistolica de Formatione Pulli in Ovo. [acced. Epistolæ quædam circa hanc de Ovo dissertationem] *plates*, 4to. Londin. 1673 ,,

——— De Pulmonibus, see *Bartholinus* (Th.)

Manning (Joannes). Prolusio medica de Cachexia Virginea. 4to. Lugd. Bat. 1756 ,,

Manningham (Richard). Artis Obstetricariæ Compendium tam theoriam quam praxin spectans 4to. Londin. 1739 ,,

——— ——— [Editio nova], P. A. Boehmero edita [acced.] De situ uteri gravidi fœtusque a sede placentæ in utero; et Præstantia Forcipis Anglicanæ in partu difficili ex situ capitis obliquo 4to. Halæ. Magd. 1746 ,,

——— Aphorismata Medica; quibus valetudo mulierum, præcipue Utero gerentium, depingitur; et ad levandos earum Morbos præscribitur 12mo. Lond. 1756 ,,

Marci (Joannes Marcus). Idearum Operatricium Idea; sive Hypotyposis et detectio illius occultæ virtutis quæ semina fœcundat, et ex iisdem corpora organica producit [liber primus] *portrait, and plates*, 4to. Pragæ, 1635 ,,

Marinello de Formie (Jean). Maladies des Femmes et remedes d'ycelles en trois livres; traduits et amplifiés, par Jean Liebaud, et reveus, corrigés, et augmentés par Lazare Pé 12mo. Paris, 1609 ,,

This work had been previously printed in 1582 by Jean Liebaud as an original work translated from his own Latin, the name of Marinello having been suppressed. From a remark in the Preface it appears that the discovery of the fraud was made by the present editor, Lazare Pé.

——— see also *Liebaut* (Jean).

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MARTEL (J.). De l'Accommodation en Obstétrique 8vo. Paris, 1878 Purchased.

MARTIN (A.). Das Verhalten des Cervix Uteri während der letzten Schwangerschaftsmonate. *plates*, roy. 8vo. Stuttgart, 1877 „

MARTIN (E.). Hand-Atlas der Gynäkologie und Geburtshülfe, herausgegeben von A. Martin; zweite Auflage 4to. Berlin, 1878 Editor.

MATTEI (A.). De la Résorption de la Liqueur Séminale; de son action tonique, excitante sur l'homme et sur la femme 8vo. Paris, 1878 Author.

MATTHÆI (Bernhard. Herman.). Diss. de moderata Lactantium Venere 4to. Francof. 1765 Purchased.

MAURICEAU (Francis). De Mulierum prægnantium, parturientium, et puerperarum morbis; editio secunda *plates*, 4to. Londini, 1688 „

——— Traité des Maladies des femmes grosses, et de celles qui sont accouchées; quatrième édition, avec des Aphorismes qui contiennent tous les principaux préceptes de l'Art *portrait and plates*, 4to. Paris, 1694 „

——— Diseases of Women with Child, and in Child-bed, translated by Hugh Chamberlen; eighth edition *plates*, 8vo. Lond. 1755 „

——— Tractaat van de Siektens der Swangere Vrouwen; tweede Druk vermeerdert, door Petrus Camper *plates*, 4to. Amst. 1759 „

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